

10/018094

J0 Rec'd PCT/PTO 14 DEC 2001

(Nucleotide) FASTA of: Hn540-1.Dna from: 1 to: 3705 September 25, 19100 23:27

REFORMAT of: Hn540-1.Dna check: 5366 from: 1 to: 3705 September 25, 19100
13:37
(No documentation)

TO: @USER_DISK:[Z8SE007]134608.\$TMP Sequences: 7,218,604 Symbols: -151,773,6
69 Word Size: 6

Sequences too short to analyze: 62 (231 symbols)

Databases searched:

EMBL, Release 63.0, Released on 10Jun2000, Formatted on 10Jul2000
EMBL, Release 63.0, Released on 17Jun2000, Formatted on 17Jul2000
EMBL, Release 63.0, Released on 25Jun2000, Formatted on 25Jul2000
EMBL, Release 63.0, Released on 6Jun2000, Formatted on 6Jul2000

EMBL, Release 63.0, Released on 14Jun2000, Formatted on 14Jul2000
EMBL, Release 63.0, Released on 19Jun2000, Formatted on 19Jul2000
EMBL, Release 63.0, Released on 20Jun2000, Formatted on 20Jul2000
EMBL, Release 63.0, Released on 11Jun2000, Formatted on 11Jul2000
EMBL, Release 63.0, Released on 18Jun2000, Formatted on 18Jul2000
GeneSeq, Release 40.4, Released on 22Jun2000, Formatted on 22Jun2000
EMBL, Release 63.0, Released on 3Jun2000, Formatted on 3Jul2000
EMBL, Release 63.0, Released on 4Jun2000, Formatted on 4Jul2000
EMBL, Release 63.0, Released on 5Jun2000, Formatted on 5Jul2000
EMBL, Release 63.0, Released on 7Jun2000, Formatted on 7Jul2000

Searching with both strands of the query.

Scoring matrix: GenRunData:Fastadna.Cmp

Constant pamfactor used

Gap creation penalty: 16 Gap extension penalty: 4

Results sorted by z-values calculated from init1 score
 1673 scores saved that exceeded 116, Joining threshold: 91, opt. width: 16

The best scores are:

		init1	initn	opt	z-sc	E(14420799) ..
Emrod:Af125521	Begin: 1 End: 3705					
! Af125521	Rattus norvegicus nephrin ...	18525	18525	18525	25999.4	0
Emrod:Af161715	Begin: 458 End: 4162					
! Af161715	Rattus norvegicus nephrin ...	18452	18452	18453	25893.3	0
Emrod:Af168466	Begin: 24 End: 3481					
! Af168466	Mus musculus nephrin (Nphs...)	14308	15239	14974	21379.6	0
Emhum1:Af035835	Begin: 24 End: 3497					
! Af035835	Homo sapiens nephrin (NPHS...)	11557	12214	12066	17125.7	0
Gcg_Geneseq_D:Z25338	Begin: 24 End: 3497					
! Human nephrin nucleotide sequence ...	11557	12214	12066	17125.7	0	
Emhum3:Hsac2133	Begin: 14708 End: 14893 Strand: -					
! Ac002133	Human DNA from chromosome ...	651	4463	651	6211.3	0
Emhtg5:Ac022315	Begin: 169005 End: 169234					
! Ac022315	Homo sapiens chromosome N/...	653	2207	700	3028.6	0
Emhum6:Hsu95090	Begin: 33243 End: 33369 Strand: -					
! U95090	Homo sapiens chromosome 19 c...	448	1773	455	2430.1	0
Emest_Mam:Aw347107	Begin: 1 End: 426					
! Aw347107	30251 MARC 1PIG Sus scrofa...	1431	1431	1437	1983.9	0
Emgss6:Aq522774	Begin: 252 End: 437					
! Aq522774	HS_5221_B1_E10_T7A RPCI-11...	586	956	603	1314.0	0
\End of List						

Hn540-1.Dna

Emrod:Af125521

ID AF125521 standard; RNA; ROD; 3705 BP.
 AC AF125521;
 SV AF125521.1
 DT 23-NOV-1999 (Rel. 61, Created)
 DT 23-NOV-1999 (Rel. 61, Last updated, Version 1)
 DE Rattus norvegicus nephrin mRNA, complete cds.
 KW
 OS Rattus norvegicus (Norway rat)
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia;
 OC Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 RN [1]
 RP 1-3705
 RX MEDLINE; 99419288.
 RA Ahola H., Wang S.X., Luimula P., Solin M.L., Holzman L.B., Holthofer H.;
 RT "Cloning and expression of the rat nephrin homolog";
 RL Am. J. Pathol. 155(3):907-913(1999).
 RN [2]
 RP 1-3705
 RA Ahola H., Wang S.-X., Luimula P., Solin M.-L., Holzman L.B., Holthofer H.;
 RT ;
 RL Submitted (03-FEB-1999) to the EMBL/GenBank/DDBJ databases.
 RL Haartman Institute/ Division of Bacteriology and Immunology, University of
 RL Helsinki, P.O. Box 21 (Haartmaninkatu 3), Helsinki 00014, Finland
 DR SPTREMBL; Q9R044; Q9R044.
 FH Key Location/Qualifiers
 FH
 FT source 1. .3705
 FT /db_xref="taxon:10116"
 FT /organism="Rattus norvegicus"
 FT /strain="Sprague-Dawley"
 FT /tissue_type="kidney glomeruli"
 FT /dev_stage="one month"
 FT CDS 1. .3705
 FT /codon_start=1

FT /db_xref="SPTRREMBL:Q9R044"
 FT /product="nephrin"
 FT /protein_id="AAF12734.1"
 FT /translation="MSSLTPLLLMGMLTGLAESPVPTSAAPRGFWALSENLTAVEGTTV
 KLWCGVRAPGSVVQWAKDGLLLGPNPKMPGFPRYSLEGDRAKGEFHLLIEACDLSDAEE
 YECQVGRSELGPELVSPKVILSILVSPKVLLLTPEAGSTVTWVAGQEYVVTCVSGDAKP
 APDITFIQSRTILDVSSNVNEGSEEKLCITEAEARVIHQSSDNGQLLVCEGSNPALDT
 PIKASFTMNLFPFPGPPVIDWPGLNEGHVRAGENLELPCTARGGNPPATLQWLKNKGKPV
 STAWGTEHAQAVAHSVLVMTVRPEDH GARLSCQSYNSVSAGTQERSITLQVTFPPSAIT
 ILGSVSQSEKNVTLCCLTKSSRPRVLLRWLGGRQLLPTDETVMMDLHGHHISMSNLT
 FLVRREDNGLPLTCEAFSDAFSKETFKKSLTLNVKYPQKLWIEGPPEGQYIRTGTRVR
 LVCLAIGGNPDPSSIWFKDSDRPVSEPRQPQEPRRVQLGSVEKSGSTFSRELVLIIGPPD
 NRAKFSCSKAGQLSASTQLVVQFPPTNLTI LANSSALRPGDALNLTCVSISSNPPVNLSW
 DKEGERLEDVAAKPQSAPFKGSAASRSVFLRVSSRDHGQRVTCAHSEALRET VSSFYR
 FNVLYPPEFLGEQVRAVTVVEQGQVLLPVSVSANPAPEAFNWTFRGYRLSPAGGPRHRI
 FT LSGGALQLWNVTRADDGFYQLHCQNSEGTAEALLKLDVHYAPTI RLDPTEVNVGGSV

SCORES Init1: 18525 Initn: 18525 Opt: 18525 z-score: 25999.4 E(): 0
 100.0% identity in 3705 bp overlap

	10	20	30	40	50	60
Hn540-1.Dna	ATGTCCAGTTGACTCCCCTGCTGCTCATGGGAATGCTGACCTCAGGCCCTGGCCGAGTCG					
Af125521	ATGTCCAGTTGACTCCCCTGCTGCTCATGGGAATGCTGACCTCAGGCCCTGGCCGAGTCG	10	20	30	40	50
						60
	70	80	90	100	110	120
Hn540-1.Dna	CCAGTCCCCACCTCAGCACCTCGAGGCTCTGGGCTCTGCTGAAAACCTGACTGC CGGTG					
Af125521	CCAGTCCCCACCTCAGCACCTCGAGGCTCTGGGCTCTGCTGAAAACCTGACTGC CGGTG	70	80	90	100	110
						120
	130	140	150	160	170	180
Hn540-1.Dna	GAAGGGACAACAGTTAACGCTATGGTGC GG TGCAAGGCCCTGGCAGTGTGGTGCAGTGG					
Af125521	GAAGGGACAACAGTTAACGCTATGGTGC GG TGCAAGGCCCTGGCAGTGTGGTGCAGTGG					
	130	140	150	160	170	180
	190	200	210	220	230	240
Hn540-1.Dna	GCTAAGGATGGGCTGCTTCTGGGTCAAACCCGAAGATGCCAGGCTTCCCAGGGTACAGC					
Af125521	GCTAAGGATGGGCTGCTTCTGGGTCAAACCCGAAGATGCCAGGCTTCCCAGGGTACAGC	190	200	210	220	230
						240
	250	260	270	280	290	300
Hn540-1.Dna	CTGGAAAGGAGATCGTGCTAAAGGCGAGTTCCACCTGCTTATTGAAGCCTGTGACCTCAGT					
Af125521	CTGGAAAGGAGATCGTGCTAAAGGCGAGTTCCACCTGCTTATTGAAGCCTGTGACCTCAGT	250	260	270	280	290
						300
	310	320	330	340	350	360
Hn540-1.Dna	GATGACCGAGAGTATGAATGCCAAGTCGGCCGCTCAGAGTTGGGTCCCGAGCTTGTGTCT					

Af125521	GATGACGCAGAGTATGAATGCCAAGTCGGCCGCTCAGAGTTGGTCCCGAGCTTGTGTCT					
	310	320	330	340	350	360
Hn540-1.Dna	CCTAAAGTAATCCTCTCCATTCTAGTTCCCCAAGGTGCTTCTGTTGACCCCCGAGGCA					
Af125521	CCTAAAGTAATCCTCTCCATTCTAGTTCCCCAAGGTGCTTCTGTTGACCCCCGAGGCA					
	370	380	390	400	410	420
Hn540-1.Dna	GGAAGCACAGTGACCTGGTAGCTGGCAGGAGTATGTGGTCACCTGTGTCTGGGAT					
Af125521	GGAAGCACAGTGACCTGGTAGCTGGCAGGAGTATGTGGTCACCTGTGTCTGGGAT					
	430	440	450	460	470	480
Hn540-1.Dna	GCAAAACCAGCACCTGACATCACCTCATCCAGAGTGGACGAACATATTGGACGTCTCC					
Af125521	GCAAAACCAGCACCTGACATCACCTCATCCAGAGTGGACGAACATATTGGACGTCTCC					
	490	500	510	520	530	540
Hn540-1.Dna	TCCAATGTGAATGAGGGATCAGAGGAGAAAACTCTGCATCACAGAGGCCGAAGCCAGGGTG					
Af125521	TCCAATGTGAATGAGGGATCAGAGGAGAAAACTCTGCATCACAGAGGCCGAAGCCAGGGTG					
	550	560	570	580	590	600
Hn540-1.Dna	ATACCCCAGAGCTGGATAACGGGCAGTTACTGGTCTGTGAGGGTTCCAACCCAGCTTG					
Af125521	ATACCCCAGAGCTGGATAACGGGCAGTTACTGGTCTGTGAGGGTTCCAACCCAGCTTG					
	610	620	630	640	650	660
Hn540-1.Dna	GACACTCCCATAAAGGCTTCATTCACCATGAATATTCTGTTCCCCCAGGACCTCCTGTC					
Af125521	GACACTCCCATAAAGGCTTCATTCACCATGAATATTCTGTTCCCCCAGGACCTCCTGTC					
	670	680	690	700	710	720
Hn540-1.Dna	ATTGATTGGCCAGGCCTGAATGAAGGGCATGTGAGGGCAGGGGAGAACCTGGAGCTGCC					
Af125521	ATTGATTGGCCAGGCCTGAATGAAGGGCATGTGAGGGCAGGGGAGAACCTGGAGCTGCC					
	730	740	750	760	770	780
Hn540-1.Dna	TGCACAGCCAGAGGTGGCAATCCACCTGCTACCTGCAGTGGCTGAAGAACGGTAAACCA					
Af125521	TGCACAGCCAGAGGTGGCAATCCACCTGCTACCTGCAGTGGCTGAAGAACGGTAAACCA					
	790	800	810	820	830	840
Hn540-1.Dna	GTGTCCACAGCCTGGGCACCGAGCATGCCAGGCAGTGGCCACAGTGTGCTGGTGTGATG					
Af125521	GTGTCCACAGCCTGGGCACCGAGCATGCCAGGCAGTGGCCACAGTGTGCTGGTGTGATG					
	850	860	870	880	890	900
Hn540-1.Dna	ACTGTACGACCTGAAGACCATGGAGCTGGCTCAGCTGTCACTACAAACAGCGTGTCT					
Af125521	ACTGTACGACCTGAAGACCATGGAGCTGGCTCAGCTGTCACTACAAACAGCGTGTCT					
	910	920	930	940	950	960

	970	980	990		1010	1020
Hn540-1.Dna	GCAGGGACCCAGGAGAGAAGCATCACACTACAGGTACACCTTCCCCAAGGCCATTACC					
Af125521						
	970	980	990	1000	1010	1020
	1030	1040	1050	1060	1070	1080
Hn540-1.Dna	ATCCTGGGATCTGTATACAATCGGAGAACAAAGAACGTGACCCTTGCTGCCTGACCAAG					
Af125521						
	1030	1040	1050	1060	1070	1080
	1090	1100	1110	1120	1130	1140
Hn540-1.Dna	TCCAGTCGCCACGGGTCCCTGCTGCGATGGTGGTTGGGTGGACGGCAGCTGCTGCCACA					
Af125521						
	1090	1100	1110	1120	1130	1140
	1150	1160	1170	1180	1190	1200
Hn540-1.Dna	GATGAGACAGTCATGGATGCCCTGCATGGTGGCACATCTCCATGTCCAATCTCACATTC					
Af125521						
	1150	1160	1170	1180	1190	1200
	1210	1220	1230	1240	1250	1260
Hn540-1.Dna	TTGGTGGGAGAGAACATAATGGCTGCCCTCACGTGTGAAGCCTTCAGTGACGCCCTC					
Af125521						
	1210	1220	1230	1240	1250	1260
	1270	1280	1290	1300	1310	1320
Hn540-1.Dna	AGCAAGGAGACCTTCAAGAACAGTCACTCACCTGAATGTGAATAACCCCTGCCAGAGCTG					
Af125521						
	1270	1280	1290	1300	1310	1320
	1330	1340	1350	1360	1370	1380
Hn540-1.Dna	TGGATTGAGGGGCCAGAGGGACAGTACATCCGGACTGGGACTCGGGTGAGGCTGGTA					
Af125521						
	1330	1340	1350	1360	1370	1380
	1390	1400	1410	1420	1430	1440
Hn540-1.Dna	TGCTTGGCCATCGGAGGCAACCCAGACCCCTCCCTCATCTGGTTAACGGATTACGTCCG					
Af125521						
	1390	1400	1410	1420	1430	1440
	1450	1460	1470	1480	1490	1500
Hn540-1.Dna	GTGAGCGAGCCCCGGCAGCCCCAGGAGCCCCGGCGTGTGCAGCTGGCAGTGTGGAGAAG					
Af125521						
	1450	1460	1470	1480	1490	1500
	1510	1520	1530	1540	1550	1560
Hn540-1.Dna	TCCGGGAGCACTTCTCCCGCAGCTGGTGTGATCATAGGTCCGCCGGACAACCGAGCC					
Af125521						
	1510	1520	1530	1540	1550	1560
	1570	1580	1590	1600	1610	1620
Hn540-1.Dna	AAGTTCTCCTGCAAGGCGGGTCAAGCTCAGTGCCTACGCAGCTGGTGGTCAAGTTCCCC					

Af125521	AAGT	TCTCTGCAAGGCGGGTCAGCTCAGTGCCTCTA	CAGCTGGTGGTGCAGTTCCCC			
	1570	1580	1590	1600	1610	1620
Hn540-1.Dna	1630	1640	1650	1660	1670	1680
	CCAAACCAACCTGACCATCCTGGCCAACTCGTCCGCGCTGCGCCCAGGGCAGCCTTGAAAC					
Af125521	CCAAACCAACCTGACCATCCTGGCCAACTCGTCCGCGCTGCGCCCAGGGCAGCCTTGAAAC					
	1630	1640	1650	1660	1670	1680
Hn540-1.Dna	1690	1700	1710	1720	1730	1740
	TTGACCTGCGTCAGCATCAGCAGCAACCCCCCAGTCAGCTGTCTGGGACAAGGAAGGA					
Af125521	TTGACCTGCGTCAGCATCAGCAGCAACCCCCCAGTCAGCTGTCTGGGACAAGGAAGGA					
	1690	1700	1710	1720	1730	1740
Hn540-1.Dna	1750	1760	1770	1780	1790	1800
	GAGAGGCTGGAAGATGTGGCTGCAAAACCCCAGAGTCACCGTTCAAAGGCTCCGCTGCA					
Af125521	GAGAGGCTGGAAGATGTGGCTGCAAAACCCCAGAGTCACCGTTCAAAGGCTCCGCTGCA					
	1750	1760	1770	1780	1790	1800
Hn540-1.Dna	1810	1820	1830	1840	1850	1860
	TCCAGGAGTGTCTCAGAGTGTCACTCCCGAGACCAACGGTCAACGGGTACCTGCCGG					
Af125521	TCCAGGAGTGTCTCAGAGTGTCACTCCCGAGACCAACGGTCAACGGGTACCTGCCGG					
	1810	1820	1830	1840	1850	1860
Hn540-1.Dna	1870	1880	1890	1900	1910	1920
	GCCCACAGCGAGGCACTCCGTGAAACCGTGAGCTCCTTCTACCGCTTCAATGTGCTGTAT					
Af125521	GCCCACAGCGAGGCACTCCGTGAAACCGTGAGCTCCTTCTACCGCTTCAATGTGCTGTAT					
	1870	1880	1890	1900	1910	1920
Hn540-1.Dna	1930	1940	1950	1960	1970	1980
	CCTCCAGAATTCTGGGGAGCAAGTCCGGCAGTGACCGTGGTGGAGCAGGGCCAGGTG					
Af125521	CCTCCAGAATTCTGGGGAGCAAGTCCGGCAGTGACCGTGGTGGAGCAGGGCCAGGTG					
	1930	1940	1950	1960	1970	1980
Hn540-1.Dna	1990	2000	2010	2020	2030	2040
	CTGCTGCCGGTGTCCGCTAACCCCGCCCCCGAGGCCTTCAACTGGACCTTCCGA					
Af125521	CTGCTGCCGGTGTCCGCTAACCCCGCCCCCGAGGCCTTCAACTGGACCTTCCGA					
	1990	2000	2010	2020	2030	2040
Hn540-1.Dna	2050	2060	2070	2080	2090	2100
	GGCTACCGCCTCAGCCCAGCTGGGGTCCCCGGCACCGTATCCTGTCGGAGGGCTCTG					
Af125521	GGCTACCGCCTCAGCCCAGCTGGGGTCCCCGGCACCGTATCCTGTCGGAGGGCTCTG					
	2050	2060	2070	2080	2090	2100
Hn540-1.Dna	2110	2120	2130	2140	2150	2160
	CAGCTGTGGAATGTGACCCGAGCTGACGATGGCTTATCAGCTGCACGCCAGAACTCA					
Af125521	CAGCTGTGGAATGTGACCCGAGCTGACGATGGCTTATCAGCTGCACGCCAGAACTCA					
	2110	2120	2130	2140	2150	2160
Hn540-1.Dna	2170	2180	2190	2200	2210	2220
	GAGGGCACCCTGAGGCCTGTTGAAGCTGGACGTGCATTATGCTCCACCATCCGTGCC					
Af125521	GAGGGCACCCTGAGGCCTGTTGAAGCTGGACGTGCATTATGCTCCACCATCCGTGCC					
	2170	2180	2190	2200	2210	2220

	2230	2240	2250	2260	2270	2280
Hn540-1.Dna	CTCCGGGACCCCTACTGAGGTGAATGTTGGGGTCTGTGGACATAGTCTGCACCGTTGAC					
Af125521	 CTCCGGGACCCCTACTGAGGTGAATGTTGGGGTCTGTGGACATAGTCTGCACCGTTGAC	2230	2240	2250	2260	2270
						2280
	2290	2300	2310	2320	2330	2340
Hn540-1.Dna	GCCAATCCCATCCTCCCCAGAGATGTTAGCTGGGAGAGACTGGGAGAAGAAGAGGAGGAT					
Af125521	 GCCAATCCCATCCTCCCCAGAGATGTTAGCTGGGAGAGACTGGGAGAAGAAGAGGAGGAT	2290	2300	2310	2320	2330
						2340
	2350	2360	2370	2380	2390	2400
Hn540-1.Dna	CTGAACCTGGACGACATGGAGAAAGTTCCAAGGGATCCACGGGGCGTCTGCGGATTTCGC					
Af125521	 CTGAACCTGGACGACATGGAGAAAGTTCCAAGGGATCCACGGGGCGTCTGCGGATTTCGC	2350	2360	2370	2380	2390
						2400
	2410	2420	2430	2440	2450	2460
Hn540-1.Dna	CAAGCCAAGCTATCCCAGGGCTGGTGCTACCAGTGCATCGTGGACAATGGGTGGCTCCT					
Af125521	 CAAGCCAAGCTATCCCAGGGCTGGTGCTACCAGTGCATCGTGGACAATGGGTGGCTCCT	2410	2420	2430	2440	2450
						2460
	2470	2480	2490	2500	2510	2520
Hn540-1.Dna	GCAGCCAGAGGACTGGTCGTCTGGTGTGGCTCCAGGTGGATCAGCCTACT					
Af125521	 GCAGCCAGAGGACTGGTCGTCTGGTGTGGCTCCAGGTGGATCAGCCTACT	2470	2480	2490	2500	2510
						2520
	2530	2540	2550	2560	2570	2580
Hn540-1.Dna	CCCCTAACAAAAGTGGCTGCCGCTGGGGACAGCACCAAGCTCAGCCACACTGCACTGCCGT					
Af125521	 CCCCTAACAAAAGTGGCTGCCGCTGGGGACAGCACCAAGCTCAGCCACACTGCACTGCCGT	2530	2540	2550	2560	2570
						2580
	2590	2600	2610	2620	2630	2640
Hn540-1.Dna	GCCC GG GT T C C C A A C A T C G A C T T C A C T T G G A C C A A A A C G G G G T C C C T C T G G A T C T C					
Af125521	 GCCC GG GT T C C C A A C A T C G A C T T C A C T T G G A C C A A A A C G G G G T C C C T C T G G A T C T C	2590	2600	2610	2620	2630
						2640
	2650	2660	2670	2680	2690	2700
Hn540-1.Dna	CAAGACCCCAGGTACACAGAGCACAGGTACCAAGCAGGGTGTGTCCACAGCAGCCTCTTG					
Af125521	 CAAGACCCCAGGTACACAGAGCACAGGTACCAAGCAGGGTGTGTCCACAGCAGCCTCTTG	2650	2660	2670	2680	2690
						2700
	2710	2720	2730	2740	2750	2760
Hn540-1.Dna	ACCATCGCTAATGTGTCTGGGCCAGGACTATGCCCTCTCAAATGCACGGCCACCAAT					
Af125521	 ACCATCGCTAATGTGTCTGGGCCAGGACTATGCCCTCTCAAATGCACGGCCACCAAT	2710	2720	2730	2740	2750
						2760
	2770	2780	2790	2800	2810	2820
Hn540-1.Dna	GCCCTGGCTCTGACCACACCAACATCCAGCTCGTCAGCATCAGCCGCCCTGACCCCTCCA					
Af125521	 GCCCTGGCTCTGACCACACCAACATCCAGCTCGTCAGCATCAGCCGCCCTGACCCCTCCA	2770	2780	2790	2800	2810
						2820
	2830	2840	2850	2860	2870	2880
Hn540-1.Dna	CTGGGACTGAAGGTTGTCAAGCATAAGCCCTCACTCGGTGGGCTGGAGTGGAAAGCCTGGC					
Af125521	 CTGGGACTGAAGGTTGTCAAGCATAAGCCCTCACTCGGTGGGCTGGAGTGGAAAGCCTGGC	2830	2840	2850	2860	2870
						2880

	2830	2840	2850	2860	2870	2880
Hn540-1.Dna	2890	2900	2910	2920	2930	2940
Af125521	TTTGATGGGGTCTGCCTCAGAGGTTCAAATCAGGTACGAGGCCCTCGAGACCCCAGGA 2890	2900	2910	2920	2930	2940
Hn540-1.Dna	2950	2960	2970	2980	2990	3000
Af125521	TTCCTCCACGTGGATGTCCTACCTACACAGGCCACTACCTTCACGCTGACTGGGCTGAAG 2950	2960	2970	2980	2990	3000
Hn540-1.Dna	3010	3020	3030	3040	3050	3060
Af125521	CCTTCTACACGATATAAGGATCTGGCTTGGCCAGCAATGCCCTGGGGACAGTGGATTG 3010	3020	3030	3040	3050	3060
Hn540-1.Dna	3070	3080	3090	3100	3110	3120
Af125521	ACGGACAAGGGATCCAGGTCTCCGTCACTACCCCAGGCCCGACCAGGCTCCTGAAGAC 3070	3080	3090	3100	3110	3120
Hn540-1.Dna	3130	3140	3150	3160	3170	3180
Af125521	ACAGACCACCAGCTGCCAACAGAGCTGCCTCCAGGACCCCCAAGGCTGCCCTGCTGCCT 3130	3140	3150	3160	3170	3180
Hn540-1.Dna	3190	3200	3210	3220	3230	3240
Af125521	GTGCTTTGCAGTTGGTGGTCTTCTGCTGCTCTCCAATGCCCTCCTGTGTTGGGGTCTC 3190	3200	3210	3220	3230	3240
Hn540-1.Dna	3250	3260	3270	3280	3290	3300
Af125521	CTCTGGCGGAGAAAGACTGAGGCGCCTGCTGAGGAGATCTCAGAGAACAGAGGCAGGG 3250	3260	3270	3280	3290	3300
Hn540-1.Dna	3310	3320	3330	3340	3350	3360
Af125521	TCGGAGGACAGGATCAGGAATGAATATGAGGAGAGTCAGTGGACTGGGGACGGGACACG 3310	3320	3330	3340	3350	3360
Hn540-1.Dna	3370	3380	3390	3400	3410	3420
Af125521	AGAACGCTCACGGTTAGCACAGCAGAAGTGGACCCAAATTACTACTCCATGAGGGACTTC 3370	3380	3390	3400	3410	3420
Hn540-1.Dna	3430	3440	3450	3460	3470	3480
Af125521	AGCCCCCAGCTTCCCCAACACTGGAGGAGGTGCTGTATCACCAAGGTGCTGAAGGCGAG 3430	3440	3450	3460	3470	3480
Hn540-1.Dna	3490	3500	3510	3520	3530	3540
	GACATGGCCTCCCCGGACACCTGCATGATGAAGTGGAGAGAGCCTATGGCCCGCCTGGG					

Af125521	GACATGGCCTTCCCCGGACACCTGCATGATGAAGTGGAGAGAGCCTATGGCCCGCTGGG 3490 3500 3510 3520 3530 3540
Hn540-1.Dna	3550 3560 3570 3580 3590 3600 GCCTGGGGACCCCTCATGATGAAGTACGAATGGACCCCTATGACCTCGCTGCCCTGAG
Af125521	GCCTGGGGACCCCTCATGATGAAGTACGAATGGACCCCTATGACCTCGCTGCCCTGAG 3550 3560 3570 3580 3590 3600
Hn540-1.Dna	3610 3620 3630 3640 3650 3660 GTCCAATGTGAGGATCCGAGGGGAATCTACAACCAGGTGGCAGCAGACATGGATGCTGTG
Af125521	GTCCAATGTGAGGATCCGAGGGGAATCTACAACCAGGTGGCAGCAGACATGGATGCTGTG 3610 3620 3630 3640 3650 3660
Hn540-1.Dna	3670 3680 3690 3700 GAAGCTAGCTCTGCCGTTGAGCTGAGGGACATCTGGTGTGA
Af125521	GAAGCTAGCTCTGCCGTTGAGCTGAGGGACATCTGGTGTGA 3670 3680 3690 3700

Hn540-1.Dna

Emrod:Af161715

ID AF161715 standard; RNA; ROD; 5820 BP.
 AC AF161715;
 SV AF161715.1
 DT 12-DEC-1999 (Rel. 62, Created)
 DT 12-DEC-1999 (Rel. 62, Last updated, Version 1)
 DE Rattus norvegicus nephrin mRNA, complete cds.
 KW .
 OS Rattus norvegicus (Norway rat)
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia;
 OC Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 RN [1]:
 RP 1-5820
 RA Kawachi H., Koike H., Yaoita E., Yamamoto T., Orikasa M., Shimizu F.;
 RT "Cloning of rat nephrin and its expression and localization in proteinuric
 RT states";
 RL Unpublished.
 RN [2]
 RP 1-5820
 RA Kawachi H., Koike H., Yaoita E., Yamamoto T., Orikasa M., Shimizu F.;
 RT ;
 RL Submitted (22-JUN-1999) to the EMBL/GenBank/DDBJ databases.
 RL Department of Cell Biology, Institute of Nephrology, Niigata University
 RL School of Medicine, 1-757 Asahimachi-dori, Niigata 951-8510, Japan
 DR SPTREMBL; Q9QXX7; Q9QXX7.
 FH Key Location/Qualifiers
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 FT source 1. .5820
 FT /db_xref="taxon:10116"
 FT /organism="Rattus norvegicus"
 FT /strain="Wistar"
 FT /tissue_type="glomeruli"
 FT CDS 404. .4162
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 FT /product="nephrin"
 FT /protein_id="AAF14884.1"
 FT /translation="MGA
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 LLMGMLTSGLAE
 SPVETSA
 P"

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FT KGEFHLLIEACDLSSDAEYECQVGRSELGPELVSPKVILSILVSPKVLLTPEAGSTVT
FT WVAGQEYVVTCVSGDAKPAPPDITFIQSGRTILDVSSNVNEGSEEKLCITEAEARVIQPS
FT SDNGQILLVCEGSNPALDTPIKASFTMNIILFPPGPPVIDWPGLNEGHVRAGENLELPCTA
FT RGGNPPATLQLWLNGKPVSTA WGTEHAQAVAHSLVMTVRPEDH GARLSCQS YNSVSAG
FT TQERSITLQVTFFPSAITILGSVSQSENKNVTLCLTKSSRPRVLLRWLGGRQLLPTD
FT ETVMMDGLHGGHISMNSNLTFLVRREDNGLPLTCEAFSDAFSKETFKS LT LNVKYPAQKL
FT WIEGPPEGQYIRTGTRVRLVCLAIGGNPDPSLIWFKDSRPVSEPRQPQEPRRVQLGSVE
FT KSGSTFSRELVLII GPPDNRAKFSC KAGQLSASTQLVVQFPPTNL TILANSSALRPGDA
FT LNLTCVSISSNPPVNLSWDKEGERLEDVAAKPQSAPFKGSAASRSVFLRVSSRDHGQRV
FT TCRAHSEALRET VSSFYRFNVLYPPEFLGEQVR A VT VVEQGQVLLPVSVSANP APEAFN
FT WTFRGYRLSPAGGPRHRILSGGALQLWNVTRADDGFYOLHCQNSEG TAEALLKLDVHYA
FT PTIRALRD PTEVN VGG SVDIV CTV DAN PILPEMF SWERLGE EEEEDLN LDDME KVSKGST

SCORES Init1: 18452 Initn: 18452 Opt: 18453 z-score: 25893.3 E(): 0
99.8% identity in 3705 bp overlap

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Hn540-1.Dna	340	350	360	370	380	390
Af161715	CGCTCAGAGTTGGGTCCCGAGCTGTGTCCTAAAGTAATCCTCTCCATTCTAGTTCC 790	800	810	820	830	840
Hn540-1.Dna	400	410	420	430	440	450
Af161715	CCCAAGGTGCTCTGTTGACCCCCGAGGCAGGAAGCACAGTGACCTGGTAGCTGGCAG 850	860	870	880	890	900
Hn540-1.Dna	460	470	480	490	500	510
Af161715	GAGTATGTGGTCACCTGTGTCCTGGGATGCAAAACCAGCACCTGACATCACCTTCATC 910	920	930	940	950	960
Hn540-1.Dna	520	530	540	550	560	570
Af161715	CAGAGTGGACGAACTATATTGGACGTCTCCCTCAAATGTGAATGAGGGATCAGAGGAGAAA 970	980	990	1000	1010	1020
Hn540-1.Dna	580	590	600	610	620	630
Af161715	CTCTGCATCACAGAGGCCGAAGCCAGGGTATAACCCAGAGCTCGGATAACGGCAGTTA 1030	1040	1050	1060	1070	1080
Hn540-1.Dna	640	650	660	670	680	690
Af161715	CTGGTCTGTGAGGGTTCCAACCCAGCTTGGACACTCCCATAAAGGCTTCATTACCATG 1090	1100	1110	1120	1130	1140
Hn540-1.Dna	700	710	720	730	740	750
Af161715	AATATTCTGTTCCCCCAGGACCTCCTGTCAATTGATTGGCCAGGCCTGAATGAAGGGCAT 1150	1160	1170	1180	1190	1200
Hn540-1.Dna	760	770	780	790	800	810
Af161715	GTGAGGGCAGGGGAGAACCTGGAGCTGCCCTGCACAGCCAGAGGTGGCAATCCACCTGCT 1210	1220	1230	1240	1250	1260
Hn540-1.Dna	820	830	840	850	860	870
Af161715	ACCCCTGCAGTGGCTGAAGAACGGTAAACCAAGTGTCCACAGCCTGGGCACCGAGCATGCC 1270	1280	1290	1300	1310	1320
Hn540-1.Dna	880	890	900	910	920	930
Af161715	CAGGCAGTGGCCCACAGTGTGCTGGTATGACTGTACGACCTGAAGACCATGGAGCTCGG 1330	1340	1350	1360	1370	1380
Hn540-1.Dna	940	950	960	970	980	990
	CTCAGCTGTCAGTCCTACAACAGCGTGTCTGCAGGGACCCAGGAGAGAACATCACACTA					

Af161715	CTCAGCTGTCAGTCCATAACAGCGTGTGCAGGGACCCAGGAGAGAACATCACACTA 1390 1400 1410 1420 1430 1440
Hn540-1.Dna	' 1000 1010 1020 1030 1040 1050 CAGGTCACCTTCCCCAAGGCCATTACCATCTGGATCTGTATACAATCGGAGAAC
Af161715	CAGGTCACCTTCCCCAAGGCCATTACCATCTGGATCTGTATACAATCGGAGAAC 1450 1460 1470 1480 1490 1500 1060 1070 1080 1090 1100 1110
Hn540-1.Dna	AAGAACGTGACCCTTGCTGCCGTACCAAGTCCAGTCGCCACGGGTCTGCTGCGATGG
Af161715	AAGAACGTGACCCTTGCTGCCGTACCAAGTCCAGTCGCCACGGGTCTGCTGCGATGG 1510 1520 1530 1540 1550 1560
Hn540-1.Dna	1120 1130 1140 1150 1160 1170 TGGTTGGGTGGACGGCAGCTGCTGCCACAGATGAGACAGTCATGGATGGCCTGCATGGT
Af161715	TGGTTGGGTGGACGGCAGCTGCTGCCACAGATGAGACAGTCATGGATGGCCTGCATGGT 1570 1580 1590 1600 1610 1620
Hn540-1.Dna	1180 1190 1200 1210 1220 1230 GGCCACATCTCATGTCCAATCTCACATTCTGGTGCAGGAGAGAACATGGCCTGCC
Af161715	GGCCACATCTCATGTCCAATCTCACATTCTGGTGCAGGAGAGAACATGGCCTGCC 1630 1640 1650 1660 1670 1680
Hn540-1.Dna	1240 1250 1260 1270 1280 1290 CTCACGTGTGAAGCCTTCAGTGACGCCCTCAGCAAGGAGACCTTCAAGAAGTCACTCACC
Af161715	CTCACGTGTGAAGCCTTCAGTGACGCCCTCAGCAAGGAGACCTTCAAGAAGTCACTCACC 1690 1700 1710 1720 1730 1740
Hn540-1.Dna	1300 1310 1320 1330 1340 1350 TTGAATGTGAAATACCCCTGCCAGAACGCTGTGGATTGAGGGGCCCCAGAGGGACAGTAC
Af161715	TTGAATGTGAAATACCCCTGCCAGAACGCTGTGGATTGAGGGGCCCCAGAGGGACAGTAC 1750 1760 1770 1780 1790 1800
Hn540-1.Dna	1360 1370 1380 1390 1400 1410 ATCCGGACTGGGACTCGGGTGAGGCTGGTATGCTGGCATCGGAGGCAACCCAGACCCC
Af161715	ATCCGGACTGGGACTCGGGTGAGGCTGGTATGCTGGCATCGGAGGCAACCCAGACCCC 1810 1820 1830 1840 1850 1860
Hn540-1.Dna	1420 1430 1440 1450 1460 1470 TCCCTCATCTGGTTAACGATTACGTCGGTGAGCGAGCCCCGGCAGCCCCAGGAGCCC
Af161715	TCCCTCATCTGGTTAACGATTACGTCGGTGAGCGAGCCCCGGCAGCCCCAGGAGCCC 1870 1880 1890 1900 1910 1920
Hn540-1.Dna	1480 1490 1500 1510 1520 1530 CGGCGTGTGCAGCTGGCAGTGTGGAGAACGTCCGGAGCACCTTCTCCCGAGCTGGTG
Af161715	CGGCGTGTGCAGCTGGCAGTGTGGAGAACGTCCGGAGCACCTTCTCCCGAGCTGGTG 1930 1940 1950 1960 1970 1980
Hn540-1.Dna	1540 1550 1560 1570 1580 1590 TTGATCATAGGTCCGCCGGACAACCGAGCCAAGTCTCCTGCAAGGCGGGTCAGCTCAGT
Af161715	TTGATCATAGGTCCGCCGGACAACCGAGCCAAGTCTCCTGCAAGGCGGGTCAGCTCAGT 1990 2000 2010 2020 2030 2040

1600 1610 1620 1630 1640 1650

Hn540-1.Dna GCGTCTACGCAGCTGGTGGTGCAGTTCCCCCAACCAACCTGACCATCCTGGCCAACTCG
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 Af161715 GCGTCTACGCAGCTGGTGGTGCAGTTCCCCCAACCAACCTGACCATCCTGGCCAACTCG
 2050 2060 2070 2080 2090 2100

Hn540-1.Dna 1660 1670 1680 1690 1700 1710
 TCCCGCGCTGCGCCCAGGGCACGCCTTGAACCTGACCTGCGTCAGCATCAGCAGCAACCCC
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 Af161715 TCCCGCGCTGCGCCCAGGGCACGCCTTGAACCTGACCTGCGTCAGCATCAGCAGCAACCCC
 2110 2120 2130 2140 2150 2160

Hn540-1.Dna 1720 1730 1740 1750 1760 1770
 CCAGTCAACTTGTCTTGGGACAAGGAAGGAGAGAGGCTGGAAGATGTGGCTGCAAAACCC
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 Af161715 CCAGTCAACTTGTCTTGGGACAAGGAAGGAGAGAGGCTGGAAGATGTGGCTGCAAAACCC
 2170 2180 2190 2200 2210 2220

Hn540-1.Dna 1780 1790 1800 1810 1820 1830
 CAGAGTGCACCGTTCAAAGGCTCCGCTGCATCCAGGAGTGTGTTTCTCAGAGTGTATCC
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 Af161715 CAGAGTGCACCGTTCAAAGGCTCCGCTGCATCCAGGAGTGTGTTTCTCAGAGTGTATCC
 2230 2240 2250 2260 2270 2280

Hn540-1.Dna 1840 1850 1860 1870 1880 1890
 CGAGACCACGGTCAACGGGTACACCTGCCGGGCCACAGCGAGGCACCTCCGTGAAACCGTG
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 Af161715 CGAGACCACGGTCAACGGGTACACCTGCCGGGCCACAGCGAGGCACCTCCGTGAAACCGTG
 2290 2300 2310 2320 2330 2340

Hn540-1.Dna 1900 1910 1920 1930 1940 1950
 AGCTCCTTCTACCGCTTCAATGTGCTGTATCCTCCAGAATTCTGGGGAGCAAGTCCGG
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 Af161715 AGCTCCTTCTACCGCTTCAATGTGCTGTATCCTCCAGAATTCTGGGGAGCAAGTCCGG
 2350 2360 2370 2380 2390 2400

Hn540-1.Dna 1960 1970 1980 1990 2000 2010
 GCAGTGACCGTGGTGGAGCAGGGCCAGGTGCTGCTGCCGGTGTCCGCTAACCCCC
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 Af161715 GCAGTGACCGTGGTGGAGCAGGGCCAGGTGCTGCTGCCGGTGTCCGCTAACCCCC
 2410 2420 2430 2440 2450 2460

Hn540-1.Dna 2020 2030 2040 2050 2060 2070
 GCCCCCGAGGCCTTCAACTGGACCTTCCGAGGGCTACCGCCTCAGCCCAGCTGGGGTCCC
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 Af161715 GCCCCCGAGGCCTTCAACTGGACCTTCCGAGGGCTACCGCCTCAGCCCAGCTGGGGTCCC
 2470 2480 2490 2500 2510 2520

Hn540-1.Dna 2080 2090 2100 2110 2120 2130
 CGGCACCGTATCCTGTCTGGAGGGGCTCTGCAGCTGTGGAATGTGACCCGAGCTGACGAT
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 Af161715 CGGCACCGTATCCTGTCTGGAGGGGCTCTGCAGCTGTGGAATGTGACCCGAGCTGACGAT
 2530 2540 2550 2560 2570 2580

Hn540-1.Dna 2140 2150 2160 2170 2180 2190
 GGCTTTATCAGCTGCACTGCCAGAACTCAGAGGGCACCCTGAGGGCGTGTGAAGCTG
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 Af161715 GGCTTTATCAGCTGCACTGCCAGAACTCAGAGGGCACCCTGAGGGCGTGTGAAGCTG
 2590 2600 2610 2620 2630 2640

Hn540-1.Dna 2200 2210 2220 2230 2240 2250
 GACGTGCATTATGCTCCCACCATCCGTGCCCTCAGGGACCTACTGAGGTGAATGTGGG
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Af161715	2650	2660	2670	2680	2690	2700
		GACCGCATTATGCTCCCACCATCCGTGCCCTCCGGGCACCTACTGAGGTGAATGTTGGG				
Hn540-1.Dna	2260	2270	2280	2290	2300	2310
	GGTTCTGTGGACATAGTCTGCACCGTTGACGCCAATCCCATCCTCCCAGAGATGTTCAGC					
Af161715	2710	2720	2730	2740	2750	2760
	GGTTCTGTGGACATAGTCTGCACCGTTGACGCCAATCCCATCCTCCCAGAGATGTTCAGC					
Hn540-1.Dna	2320	2330	2340	2350	2360	2370
	TGGGAGAGACTGGGAGAAGAAAGAGGAGGATCTGAACCTGGACGACATGGAGAAAGTTCC					
Af161715	2770	2780	2790	2800	2810	2820
	TGGGAGAGACTGGGAGAAGAAAGAGGAGGATCTGAACCTGGACGACATGGAGAAAGTTCC					
Hn540-1.Dna	2380	2390	2400	2410	2420	2430
	AAGGGATCCACGGGGCGTCTGGGATTGCCAACGCCAGCTATCCCAGGCTGGTGCCTAC					
Af161715	2830	2840	2850	2860	2870	2880
	AAGGGATCCACGGGGCGTCTGGGATTGCCAACGCCAGCTATCCCAGGCTGGTGCCTAC					
Hn540-1.Dna	2440	2450	2460	2470	2480	2490
	CAGTCATCGTGGACAATGGGGTGGCTCCTGCAGCCAGAGGACTGGTCGTCTGTCGTC					
Af161715	2890	2900	2910	2920	2930	2940
	CAGTCATCGTGGACAATGGGGTGGCTCCTGCAGCCAGAGGACTGGTCGTCTGTCGTC					
Hn540-1.Dna	2500	2510	2520	2530	2540	2550
	CGATTGCTCCCCAGGTGGATCAGCCTACTCCCCATAACAAAAGTGGCTGCCGCTGGGGAC					
Af161715	2950	2960	2970	2980	2990	3000
	CGATTGCTCCCCAGGTGGATCAGCCTACTCCCCATAACAAAAGTGGCTGCCGCTGGGGAC					
Hn540-1.Dna	2560	2570	2580	2590	2600	2610
	AGCACCAAGCTCAGCCACACTGCACTGCCGTGCCGGGTGTCCCCAACATCGACTTCACT					
Af161715	3010	3020	3030	3040	3050	3060
	AGCACCAAGCTCAGCCACACTGCACTGCCGTGCCGGGTGTCCCCAACATCGACTTCACT					
Hn540-1.Dna	2620	2630	2640	2650	2660	2670
	TGGACCAAAACGGGGTCCCTCTGGATCTCAAGACCCCAGGTACACAGAGCACAGGTAC					
Af161715	3070	3080	3090	3100	3110	3120
	TGGACCAAAACGGGGTCCCTCTGGATCTCAAGACCCCAGGTACACAGAGCACAGGTAC					
Hn540-1.Dna	2680	2690	2700	2710	2720	2730
Hn540-1.Dna	2740	2750	2760	2770	2780	2790
	TATGCCCTTCAAATGCACGGCCACCAATGCCCTGGCTCTGACCACACCAACATCCAG					
Af161715	3190	3200	3210	3220	3230	3240
	TATGCCCTTCAAATGCACGGCCACCAATGCCCTGGCTCTGACCACACCAACATCCAG					
Hn540-1.Dna	2800	2810	2820	2830	2840	2850
	CTCGTCAGCATCAGCCGCCCTGACCCCTCCACTGGGACTGAAGGTTGTCAAGCATAAGCCCT					
Af161715	3250	3260	3270	3280	3290	3300
	CTCGTCAGCATCAGCCGCCCTGACCCCTCCACTGGGACTGAAGGTTGTCAAGCATAAGCCCT					

	860	2870	2880		2900	2910
Hn540-1.Dna	CACTCGGTGGGCTGGAGTGGAAAGCCTGGCTTGATGGGGTCTGCCTCAGAGGTTCCAA					
Af161715	CACTCGGTGGGCTGGAGTGGAAAGCCTGGCTTGATGGGGTCTGCCTCAGAGGTTCCAA					
	3310	3320	3330	3340	3350	3360
	2920	2930	2940	2950	2960	2970
Hn540-1.Dna	ATCAGGTACGAGGCCCTCGAGACCCCAGGATTCTCCACGTGGATGTCCCTACCTACACAG					
Af161715	ATCAGGTACGAGGCCCTCGAGACCCCAGGATTCTCCACGTGGATGTCCCTACCTACACAG					
	3370	3380	3390	3400	3410	3420
	2980	2990	3000	3010	3020	3030
Hn540-1.Dna	GCCACTACCTTCACGCTGACTGGGCTGAAGCCTCTACACGATATAAGGATCTGGCTGTTG					
Af161715	GCCACTACCTTCACGCTGACTGGGCTGAAGCCTCTACACGATATAAGGATCTGGCTGTTG					
	3430	3440	3450	3460	3470	3480
	3040	3050	3060	3070	3080	3090
Hn540-1.Dna	GCCAGCAATGCCCTGGGGACAGTGGATTGACGGACAAGGGGATCCAGGTCTCCGTCACT					
Af161715	GCCAGCAATGCCCTGGGGACAGTGGATTGACGGACAAGGGGATCCAGGTCTCCGTCACT					
	3490	3500	3510	3520	3530	3540
	3100	3110	3120	3130	3140	3150
Hn540-1.Dna	ACCCCAGGCCCGACCAGGCTCCTGAAGACACAGACCAGCTGCCACAGAGCTGCCT					
Af161715	ACCCCAGGCCCGACCAGGCTCCTGAAGACACAGACCAGCTGCCACAGAGCTGCCT					
	3550	3560	3570	3580	3590	3600
	3160	3170	3180	3190	3200	3210
Hn540-1.Dna	CCAGGACCCCCAAGGCTGCCCTGCTGCCTGTGCTCTTGCAAGTTGGTGGTCTTCTGCTG					
Af161715	CCAGGACCCCCAAGGCTGCCCTGCTGCCTGTGCTCTTGCAAGTTGGTGGTCTTCTGCTG					
	3610	3620	3630	3640	3650	3660
	3220	3230	3240	3250	3260	3270
Hn540-1.Dna	CTCTCAAATGCCTCCTGTGTTGGGGTCTCCTCTGGCGGAGAACAGTGGCGCCTTGCT					
Af161715	CTCTCAAATGCCTCCTGTGTTGGGGTCTCCTCTGGCGGAGAACAGTGGCGCCTTGCT					
	3670	3680	3690	3700	3710	3720
	3280	3290	3300	3310	3320	3330
Hn540-1.Dna	GAGGAGATCTCAGAGAACAGAGGCAGGGTCGGAGGACAGGATCAGGAATGAATATGAG					
Af161715	GAGGAGATCTCAGAGAACAGAGGCAGGGTCGGAGGACAGGATCAGGAATGAATATGAG					
	3730	3740	3750	3760	3770	3780
	3340	3350	3360	3370	3380	3390
Hn540-1.Dna	GAGAGTCAGTGGACTGGGGACCGGGACACGAGAACAGCTCCACGGTTAGCACAGCAGAACGTG					
Af161715	GAGAGTCAGTGGACTGGGGACCGGGACACGAGAACAGCTCCACGGTTAGCACAGCAGAACGTG					
	3790	3800	3810	3820	3830	3840
	3400	3410	3420	3430	3440	3450
Hn540-1.Dna	GACCCAAATTACTACTCCATGAGGGACTTCAGCCCCAGCTTCCCCAACACTGGAGGAG					
Af161715	GACCCAAATTACTACTCCATGAGGGACTTCAGCCCCAGCTTCCCCAACACTGGAGGAG					
	3850	3860	3870	3880	3890	3900
	3460	3470	3480	3490	3500	3510
Hn540-1.Dna	GTGCTGTATACCAAGGTGCTGAAGGCAGGACATGGCCTCCCCGGACACCTGCATGAT					
	3850	3860	3870	3880	3890	3900

Af161715 GTGCATATCACCAAGGTGCTGAAGGCGAGGACATGTTCCCCGGACACCTGCATGAT
 3910 3920 3930 3940 3950 3960

3520 3530 3540 3550 3560 3570
 Hn540-1.Dna GAAGTGGAGAGAGCCTATGCCCGCCTGGGCCTGGGACCCCTCATGATGAAGTACGA
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Af161715 GAAGTGGAGAGAGCCTATGCCCGCCTGGGCCTGGGACCCCTCATGATGAAGTACGA
 3970 3980 3990 4000 4010 4020

3580 3590 3600 3610 3620 3630
 Hn540-1.Dna ATGGACCCCTATGACCTTCGCTGGCCTGAGGTCCAATGTGAGGATCCGAGGGAAATCTAC
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Af161715 ATGGACCCCTATGACCTTCGCTGGCCTGAGGTCCAGTGTGAGGATCCGAGGGAAATCTAC
 4030 4040 4050 4060 4070 4080

3640 3650 3660 3670 3680 3690
 Hn540-1.Dna AACCAAGGTGGCAGCAGACATGGATGCTGTGAAAGCTAGCTCTGCCGTTGAGCTGAGG
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Af161715 GACCAGGTGGCAGCAGACATGGATGCTGTGAAAGCTAGCTCTGCCGTTGAGCTGAGG
 4090 4100 4110 4120 4130 4140

3700
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Af161715 GGACATCTGGTGTGAGACGCTTCACAACACCCGTTCTACAGCCCTGGAGAAGATGTGA
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Hn540-1.Dna
 Emrod:Af168466

ID AF168466 standard; RNA; ROD; 3729 BP.

AC AF168466;
 SV AF168466.1
 DT 21-OCT-1999 (Rel. 61, Created)
 DT 21-OCT-1999 (Rel. 61, Last updated, Version 1)
 DE Mus musculus nephrin (Nphs1) mRNA, complete cds.
 KW
 OS Mus musculus (house mouse)
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia;
 OC Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 RN [1]
 RP 1-3729
 RX MEDLINE; 99436348.
 RA Holzman L.B., St John P.L., Kovari I.A., Verma R., Holthofer H.,
 RA Abrahamson D.R.;
 RT "Nephrin localizes to the slit pore of the glomerular epithelial cell";
 RL Kidney Int. 56(4):1481-1491(1999).
 RN [2]
 RP 1-3729

RA Holzman L.B., St John P.L., Kovari I.A., Verma R., Holthofer H.,
 RA Abrahamson D.R.;
 RT ;
 RL Submitted (12-JUL-1999) to the EMBL/GenBank/DDBJ databases.
 RL Internal Medicine/Nephrology, University of Michigan Medical School, 1560
 RL MSRB II, P.O. Box 0676, Ann Arbor, MI 48109-0676, USA
 DR SPTREMBL; Q9QZS7; Q9QZS7.
 FH Key Location/Qualifiers
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 FT GAKPAPDIIFIQGGRTVEDVSSSVNEGSEEKLFTEAEARVTQSSDNGQLLVCEGSNP
 FT ALATPIKASFTMNIILFPPGPPVIDWPGLNEGHVRAGENLELPCIAARGGNPPATLQWLKN
 FT GKPVSIAWGTEHAQAVAHSQLVMTVRPEDH GARLSCQSNSVSAETQERSITLQVTFPP
 FT SAVTILGSTSQSENKNVTLCLTKSSRPRVLLRWLGGRQLLPTDETVMMDGLHGGHISM
 FT SNLTLVKREDNGLSLTCEAFSDAFSKETFKKSLTNVKYPHQKLWIEGPPEGQSIRTG
 FT TRVRLVCLAIGGNPEPSLTWLKDSDRPVNDRQSQEPRRVQLGSVEKGSTFSRELVII
 FT GPPDNLAKFSCKAGQLSASTQLVVQFPPTNLTI LANSSALRPGDALNLTCVSISSNPPV
 FT NLSLDKEGERLDDVAAKPQSFKGSAASRSVFLRVSSRDHGHRVTCRAHSEALRETVS
 FT SFYRLNVLYPPEFLGEQVRAVTVVEQGQALLPVSVSANPAPEAFNWTFRGYRLSPAGGP

SCORES Init1: 14308 Initn: 15239 Opt: 14974 z-score: 21379.6 E(): 0
 92.6% identity in 3458 bp overlap

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Hn540-1.Dna	ATGTCCAGTTGACTCCCCCTGCTGCTCATGGAAATGCTGACCTCAGGC						
Af168466	ATGGCCCTGGGGACGACGCTCAGGGCTCTCTGCTCGCGGGAAATGCTGACCACGGC	10	20	30	40		
Hn540-1.Dna	CTGGCCGAGTCGCCAGTCCCCACCTCAGCACCTCGAGGCTCTGGCTCTGTGAAAAC	50	60	70	80	90	100
Af168466	CTGGCCCAGTCGCCAGTCCCCACCTCAGCACCTCGAGGCTCTGGCTCTATCTGAAAAC	70	80	90	100	110	120
Hn540-1.Dna	CTGACTGCGGTGGAAGGGACAACAGTTAACGCTATGGTGCAGGGCTGGCAGT	110	120	130	140	150	160
Af168466	CTGACTGTGGTGGAAGGGTCGACAATTAAAGCTGTGGTGTGGCGTCAGGGCCCCGGCAGT	130	140	150	160	170	180
Hn540-1.Dna	GTGGTGCAGTGGGCTAACGGATGGCTGCTTCTGGTCAAACCCGAAGATGCCAGGCTTC	170	180	190	200	210	220
Af168466	GTGGTGCAGTGGGCTAACGGATGGCTGCTTCTGGTCAAACCCTAAGATTCCAGGCTTC	190	200	210	220	230	240
Hn540-1.Dna	CCGAGGTACAGCCTGGAAGGGAGATCGTGCTAACGGCGAGTCCACCTGCTTATTGAAGCC	230	240	250	260	270	280
Af168466	CCAAGGTACAGCCTGGAAGGGAGACAGTGCTAACGGTGAGTCCACCTGCTTATTGAAGCC	250	260	270	280	290	300
Hn540-1.Dna	TGTGACCTCAGTGATGACGCAGAGTATGAATGCCAAGTCGGCCGCTCAGAGTTGGTCCC	290	300	310	320	330	340

Af168466	TGTGACCTCAGCGATGATGCCGGAGTACGAGTGCCAAAGTCGGCCGCTCCGAGTTGGGTCCC					
	310	320	330	340	350	360
Hn540-1.Dna	350	360	370	380	390	400
Af168466	GAGCTTGTGTCTCCTAAAGTAATCCTCTCCATTCTAGTTTCCCCCAAGGTGCTTCTGTTG					
	370	380	390	400	410	420
Hn540-1.Dna	GAGCTCGTGTCTCCCAGAGTAATCCTCTCCGTCTAGTTCCCCCAAGGTGCTTCAGTTA					
	410	420	430	440	450	460
Hn540-1.Dna	ACCCCCGAGGCAGGAAGCACAGTGACCTGGTAGCTGGACAGGAATATGTGGTCACCTGT					
	430	440	450	460	470	480
Af168466	ACCCCTGAGGCAGGAAGCACAGTTACCTGGTAGCTGGACAGGAATATGTGGTCACCTGT					
	490	500	510	520	530	540
Hn540-1.Dna	GTGTCTGGGGATGCAAAACCAGCACCTGACATCACCTTCATCCAGAGTGGACGAACATA					
Af168466	GTGTCTGGGGGTGCAAAGCCAGCACCTGACATCATCTTCATCCAGGGTGGACGCACGGTA					
	530	540	550	560	570	580
Hn540-1.Dna	TTGGACGTCTCCTCCAATGTGAATGAGGGATCAGAGGAGAAACTCTGCATCACAGAGGCC					
	550	560	570	580	590	600
Af168466	GAGGATGTCTCCTCCAGCGTGAATGAGGGATCAGAGGAAAAACTCTTCACGGAAAGCC					
	590	600	610	620	630	640
Hn540-1.Dna	GAAGCCAGGGTGATAACCCAGAGCTCGGATAACGGGCAGTTACTGGTCTGTGAGGGTTCC					
Af168466	GAAGCCAGGGTGACACCCAGAGCTCAGATAATGGCAGCTGCTAGTCTGCAGGGGTCC					
	610	620	630	640	650	660
Hn540-1.Dna	AACCCAGCTTGGACACTCCCATAAAGGCTTCATTCAACCAGATAATATTCTGTTCCCCCA					
Af168466	AACCCAGCCTGGCCACTCCCATAAAGGCTTCAGCTAACCATGAATATCCTGTTCCCCCA					
	670	680	690	700	710	720
Hn540-1.Dna	710	720	730	740	750	760
Af168466	GGACCTCCTGTCATTGATTGCCAGGGCTGAATGAAGGGCATGTGAGGGCAGGGGAGAAC					
	730	740	750	760	770	780
Hn540-1.Dna	CTGGAGCTGCCCTGCACAGCCAGAGGTGGCAATCCACCTGCTACCCCTGCAGTGGCTGAAG					
Af168466	CTGGAGCTACCCCTGCATAGCCAGAGGTGGAAATCCACCTGCGACCCTGCAGTGGCTGAAG					
	790	800	810	820	830	840
Hn540-1.Dna	830	840	850	860	870	880
Af168466	AACGGTAAACCAGTGTCCACAGCCTGGGCACCGAGCATGCCAGGCAGTGGCCCACAGT					
	850	860	870	880	890	900
Hn540-1.Dna	AATGGTAAACCAGTGTCCATAGCTTGGGCACAGAGCATGCCAGGCAGTGGCTCACAGT					
	890	900	910	920	930	940
Af168466	GTGCTGGTGTGATGACTGTACCGACCTGAAGACCATGGAGCTGGCTCAGCTGTCAAGTCCTAC					
	910	920	930	940	950	960

	950	960	970	980	990	1000	
Hn540-1.Dna	AACAGCGTGTCTGCAGGGACCCAGGAGAGAAGCATCACACTACAGGTACACCTTCCCCCA						
Af168466	AACAGTGTGTCTGCAGAGACCCAGGAGCGAAGCATTCTGCAGGTACACCTTCCCCCA	970	980	990	1000	1010	1020
	1010	1020	1030	1040	1050	1060	
Hn540-1.Dna	AGCGCCATTACCATCCTGGATCTGTATCACAACTGGAGAACAGAACGTGACCCCTTGCG						
Af168466	AGTGCCTGTTACCATCCTGGATCTACATCACAGTCTGAGAACAAAAATGTGACCCTTGCG	1030	1040	1050	1060	1070	1080
	1070	1080	1090	1100	1110	1120	
Hn540-1.Dna	TGCCTGACCAAGTCCAGTCGCCACGGGTCTGCGATGGTGGTGGGTGGACGGCAG						
Af168466	TGCCTTACCAAGTCCAGTCGCCACGGGTCTGCGATGGTGGTGGGTGGACGGCAG	1090	1100	1110	1120	1130	1140
	1130	1140	1150	1160	1170	1180	
Hn540-1.Dna	CTGCTGCCAACAGATGAGACAGTCATGGATGGCCTGCATGGTGGCCACATCTCCATGTCC						
Af168466	TTGCTGCCAACGGATGAGACAGTCATGGATGGCCTGCATGGTGGCCACATCTCCATGTCC	1150	1160	1170	1180	1190	1200
	1190	1200	1210	1220	1230	1240	
Hn540-1.Dna	AATCTCACATTCTGGTCCGGAGAGAACATGGCTGCCCTCACGTGTGAAGCCTTC						
Af168466	AATCTGACACTCTGGTAAAGAGAGAACATGGCTGCCCTCACCTGCGAACGCTTC	1210	1220	1230	1240	1250	1260
	1250	1260	1270	1280	1290	1300	
Hn540-1.Dna	AGTGACGCCCTCAGCAAGGAGACCTTAAGAACGTCACTCACCTGAAATGTGAAATACCC						
Af168466	AGTGATGCCCTCAGCAAGGAGACCTTAAGAACGTCACTCACCTGAAATGTAAATACCCG	1270	1280	1290	1300	1310	1320
	1310	1320	1330	1340	1350	1360	
Hn540-1.Dna	GCCCAGAACGCTGGATTGAGGGGCCAGAGGGACAGTACATCCGGACTGGGACTCGG						
Af168466	GCCCAGAACGCTGGATTGAGGGACCCCGAGAGGGCAGAGCATCCGGACTGGAACTCGG	1330	1340	1350	1360	1370	1380
	1370	1380	1390	1400	1410	1420	
Hn540-1.Dna	GTGAGGCTGGTATGCTGGCCATCGGAGGCAACCCAGACCCCTCCCATCTGGTTAAG						
Af168466	GTGAGGCTGGTATGCTGGCCATTGGAGGCAACCCAGACCCCTCCCATCTGGCTTAAG	1390	1400	1410	1420	1430	1440
	1430	1440	1450	1460	1470	1480	
Hn540-1.Dna	GATTCACTGGTGGAGCGAGCCCCGGCAGCCCCAGGGAGCCCCGGCGTGTGCAGCTGGC						
Af168466	GATTCGCGCCGGTGAACGATCCTCGCAGTCAGTCAGGAGCCCCGGCGTGTGCAGCTGGC	1450	1460	1470	1480	1490	1500
	1490	1500	1510	1520	1530	1540	
Hn540-1.Dna	AGTGTGGAGAACGCTGGAGCACTTCTCCCGCAGCTGGTGCTGATCATAGGTCCGCCG						
Af168466	AGTGTGGAGAACGCTGGAGCACTTCTCCCGCAGCTGGTGCTGATCATAGGCCGCCG	1510	1520	1530	1540	1550	1560
	1550	1560	1570	1580	1590	1600	
Hn540-1.Dna	GACAACCGAGCCAAGTTCTCCTGCAAGGGCGGGTCAAGCTCAGTGCCTACGCAGCTGGT						

Af168466	GAC	CTAGGCCAAGTTCTCCTGCAAGGCAGGTCAAG	AGTGCCTACGCAGCTGGTG			
	1570	1580	1590	1600	1610	1620
Hn540-1.Dna	1610	1620	1630	1640	1650	1660
	GTGCAGTTCCCCCAACCAACCTGACCATCCTGGCCA					
Af168466						
	GTGCAGTTCCCCAAACAAACCTGACCATCCTGGCCA	ACTCGTCCGACTGC	GGCCCAGGC			
	1630	1640	1650	1660	1670	1680
Hn540-1.Dna	1670	1680	1690	1700	1710	1720
	GACGCCATTGAACCTTGACCTGCGTCAGCATCAGCA					
Af168466						
	GACGCCATTGAACCTTGACCTGCGTCAGCATCAGCA	ACCCCTCCAGTTAAC	TGTCTTG			
	1690	1700	1710	1720	1730	1740
Hn540-1.Dna	1730	1740	1750	1760	1770	1780
	GACAAGGAAGGAGAGAGGGCTGGAAAGATGTGGCTG					
Af168466						
	GACAAGGAAGGAGAGAGGGCTGGACGACGTGGCTG	CAAAACCCCAGAGC	GCCCCATTCAA			
	1750	1760	1770	1780	1790	1800
Hn540-1.Dna	1790	1800	1810	1820	1830	1840
	GGCTCCGCTGCATCCAGGAGTGTCTCAGAGTGTCA					
Af168466						
	GGCTCCGCTGCATCCAGGAGTGTCTCAGGAGTGT	CATCCGAGACCACGG	TCAACGG			
	1810	1820	1830	1840	1850	1860
Hn540-1.Dna	1850	1860	1870	1880	1890	1900
	GTCACCTGCCGGCCCACAGCGAGGCACTCCGTG					
Af168466						
	GTTACCTGCCGGCCCACAGCGAGGCACTTCGTG	AAACCGTGAGCT	CTTCTACCGCCTC			
	1870	1880	1890	1900	1910	1920
Hn540-1.Dna	1910	1920	1930	1940	1950	1960
	AATGTGCTGTATCCTCCAGAAATTCTGGGGAGCA					
Af168466						
	AACGTGTTATAACCTCCAGAGTCTGGAGAGCA	AGTGCGGGCAGT	GACCGTGGTAGG			
	1930	1940	1950	1960	1970	1980
Hn540-1.Dna	1970	1980	1990	2000	2010	2020
	CAGGGCCAGGTGCTGCTGCCGCTGCGCTA					
Af168466						
	CAGGGCCAGGCACTGCTGCCGCTGCTGCTG	CTA	ACCCCGCCCCGAGGC	CTTCAAC		
	1990	2000	2010	2020	2030	2040
Hn540-1.Dna	2030	2040	2050	2060	2070	2080
	TGGACCTTCCGAGGCTACCGCCTCAGCCCAG					
Af168466						
	TGGACCTTCCGAGGCTACCGCCTCAGCCCAG	CTGGGGTCCCCGG	CACCGCATCCTGTCT			
	2050	2060	2070	2080	2090	2100
Hn540-1.Dna	2090	2100	2110	2120	2130	2140
	GGAGGGCTCTGCAGCTGTGGAATGTGACCCGAG					
Af168466						
	GGAGGGCACTGCAGCTGTGGAATGTAAACCGAG	CTGACGATGGCT	TTATCAGCTACAT			
	2110	2120	2130	2140	2150	2160
Hn540-1.Dna	2150	2160	2170	2180	2190	2200
	TGCCAGAACTCAGAGGGCACCGCTGAGGC					
Af168466						
	TGCCAGAACTCAGAGGGTACCGCCGAGGC	GCTGTTGAAGCTGG	ACGTGCATTATGCT	CCC		
	2170	2180	2190	2200	2210	2220

	2210	2220	2230	2240	2250	2260
Hn540-1.Dna	ACCATCCGTGCCCTCGGGACCCACTGAGGTGAATGTTGGGGGTTCTGTGGACATAGTC					
Af168466	ACCATCCGTGCCCTGAAGGACCCCTGCTGAGGTGAATGTTGGGGGTTCTGTGGATATAGTC	2230	2240	2250	2260	2270
	2270	2280	2290	2300	2310	2320
Hn540-1.Dna	TGCACCGTTGACGCCAATCCCATCCTCCCAGAGATGTTAGCTGGAGAGACTGGGAGAA					
Af168466	TGCACCGTCGATGCCAATCCCATCCTCCCAGAGATGTTAGCTGGAGAGGCTGGGAGAA	2290	2300	2310	2320	2330
	2340	2350	2360	2370	2380	
Hn540-1.Dna	GAAGAGGAGGATCTAACCTGGACGACATGGAGAAAGTTCCAAGGGATCCACAGGGCGT					
Af168466	GACGAGGAGGAACCTAACCTGGACGACATGGAGAAAGATGTCAAAGGGATCCACAGGGCGT	2350	2360	2370	2380	2390
	2400	2410	2420	2430	2440	
Hn540-1.Dna	CTGCGGATTGCCAAGCAAAGCTATCCCAGGCTGGTGCCTACCAGTCATCGTGGACAAT					
Af168466	CTGCGGATTGCCAAGCAAAGCTGTCCCAGGCTGGCGCTTACCAAGTCATCGTGGACAAC	2410	2420	2430	2440	2450
	2460	2470	2480	2490	2500	
Hn540-1.Dna	GGGGTGGCTCTGCAGCCAGGACTGGTTCGTCTTGCGTCCGATTGCTCCCCAGGTG					
Af168466	GGGGTGGCTCCCGCAGCCAGGACTGGTTCGTCTTGCGTCCGATTGCCCCCAGGTG	2470	2480	2490	2500	2510
	2520	2530	2540	2550	2560	
Hn540-1.Dna	GATCAGCCTACTCCCTAACAAAAGTGGCTGCCGCTGGGACAGCACAGCTCAGCCACA					
Af168466	GATCATCCTACTCCCTGACGAAAGTGGCTGCTGGGACAGCACAGCTGGCCACA	2530	2540	2550	2560	2570
	2580	2590	2600	2610	2620	
Hn540-1.Dna	CTGCACTGCCGTGCCGGGGTGTCCCCAACATCGACTTCACTTGGACCAAAACGGGGTC					
Af168466	CTCCACTGCCGTGCCGGGGTCCCCAACATCGACTTCACTTGGACCAAAATGGGTG	2590	2600	2610	2620	2630
	2640	2650	2660	2670	2680	
Hn540-1.Dna	CCTCTGGATCTCCAAGACCCAGGTACACAGAGCACAGGTACCGACAGGGTGTGTCCAC					
Af168466	CCTCTGGATCTCCAAGACCCAGGTACACAGAGCACAGTACCGACAGGGTGTGGTCCAC	2650	2660	2670	2680	2690
	2690	2700	2710	2720	2730	2740
Hn540-1.Dna	AGCAGCCTCTTGACCATCGCTAACATGTGTCTGCAGGCCAGGACTATGCCCTTTCAAATGC					
Af168466	AGCAGCCTCTGACCATCGCTAACATGTGTCTGCAGGCCAGGACTACGCCCTTTCAAATGC	2710	2720	2730	2740	2750
	2760	2770	2780	2790	2800	
Hn540-1.Dna	ACGGCCACCAATGCCCTTGCGCTCTGACCAACACCAACATCCAGCTCGTCAGCATCAGCCGC					
Af168466	ACAGCCACCAATGCCCTTGCGACCAACACCAACATCCAGCTCGTCAGCATCAGCCGT	2770	2780	2790	2800	2810
	2820	2830	2840	2850	2860	
Hn540-1.Dna	CCTGACCCCTCCACTGGGACTGAAGGTGTCAGCATAAGCCCTCACTCGGTGGGCTGGAG					

Af168466	CCT	CTCCACTGGGACTGAAGGTTGTGAGCGTG	CCTCACTCGGTAGGACTGGAG				
	2830	2840	2850	2860	2870	2880	
Hn540-1.Dna	2870	2880	2890	2900	2910	2920	
	TGGAAGCCTGGCTTGTATGGGGTCTGCCTCAGAGGTTCAAATCAGGTACGAGGCCCTC						
Af168466	TGGAAACCTGGCTTGTATGGGGTCTGCCTCAGAGGTTCAAATCAGGTATGAGGCCCTC	2890	2900	2910	2920	2930	2940
Hn540-1.Dna	2930	2940	2950	2960	2970	2980	
	GAGACCCCAGGATTCCCTCACGTGGATGTCCTACCTACACAGGCCACTACCTCACGCTG						
Af168466	GAGACCCCAGGATTCCCTCACATGGATGTCCTGCACAGGCCACCACCTCACACTG	2950	2960	2970	2980	2990	3000
Hn540-1.Dna	2990	3000	3010	3020	3030	3040	
	ACTGGGCTGAAGCCTTCTACACGATATAGGATCTGGCTGTGGCCAGCAATGCCCTGGGG						
Af168466	ACTGGGCTGAAGCCTTCTACACGGTACAGGATCTGGCTGTGGCCAGCAATGCCCTGGGG	3010	3020	3030	3040	3050	3060
Hn540-1.Dna	3050	3060	3070	3080	3090	3100	
	GACAGTGGATTGACGGACAAGGGATCCAGGTCTCCGTCACTACCCAGGCCCGACCAG						
Af168466	GACAGTGGATTGACGGACAAGGGATCCAGGTCTCCCATCACTACCCAGGCCCTGGACCAG	3070	3080	3090	3100	3110	3120
Hn540-1.Dna	3110	3120	3130	3140	3150	3160	
	GCTCCTGAAGACACAGACCACAGCTGCCAACAGAGCTGCCCTCAGGACCCCCAAGGCTG						
Af168466	GCTCCTGAAGACACAGACCAGCCGCTGCCAACAGAGCAGCCTCCGGGACCCCCGAGGCTG	3130	3140	3150	3160	3170	3180
Hn540-1.Dna	3170	3180	3190	3200	3210	3220	
	CCCCCTGCTGCCGTGCTCTTGCAAGTTGGTGGTCTCTGCTGCTCTCCAATGCCCTCTGT						
Af168466	CCCCAGCTGCCGTGCTCTTGCGGTTGGTGGTCTCTGCTGCTCTCCAATGCCCTCTGT	3190	3200	3210	3220	3230	3240
Hn540-1.Dna	3230	3240	3250	3260	3270	3280	
	GTTGGGGGTCTCCTCTGGCGGAGAAGACTGAGGCGCCTTGCTGAGGAGATCTCAGAGAAG						
Af168466	GTTGGGGGACTCCTCTGGCGGAGAAGACTGAGGCGCCTTGCTGAGGAGATCTCAGAGAAG	3250	3260	3270	3280	3290	3300
Hn540-1.Dna	3290	3300	3310	3320	3330	3340	
	ACAGAGGGAGGGTCGGAGGACAGGATCAGGAATGAATATGAGGAGAGTCAGTGGACT						
Af168466	ACAGAGGGAGGGTCGGAGGAGGATCGAACAGGAATGAATATGAGGAGAGTCAGTGGACT	3310	3320	3330	3340	3350	3360
Hn540-1.Dna	3350	3360	3370	3380	3390	3400	
	GGGGACCGGGACACGAGAAGCTCCACGGTTAGCACAGCAGAAGTGGACCAAATTACTAC						
Af168466	GGGGACCGGGACACAAGAAGCTCCACGGTTAGCACAGCAGAAGTGGACCCACACTACTAC	3370	3380	3390	3400	3410	3420
Hn540-1.Dna	3410	3420	3430	3440	3450	3460	
	TCCATGAGGGACTCAGCCCCCAGCTCCCCAACACTGGAGGAGGTGCTGTATCACCAA						
Af168466	TCCATGAGGGACTCAGTCCCCAGCTCCCCAACACTGGAGGAGGTGTCATATGCCAA	3430	3440	3450	3460	3470	3480

	341	3480	3490	3500	3510	3520
Hn540-1.Dna	GGTGCTGAAGGCAGGGACATGGCCTCCCCGGACACCTGCATGATGAAGTGGAGAGAGCC					
Af168466	GCCTTCACAGGTATTGAAGATGAGGACATGGCCTCCCCGGACACCTGTATGACGAGGTG					
	3490	3500	3510	3520	3530	3540

Hn540-1.Dna
Emhum1:Af035835

ID AF035835 standard; RNA; HUM; 4285 BP.
 AC AF035835;
 SV AF035835.1
 DT 08-APR-1998 (Rel. 55, Created)
 DT 03-MAR-2000 (Rel. 62, Last updated, Version 3)
 DE Homo sapiens nephrin (NPHS1) mRNA, complete cds.
 KW .
 OS Homo sapiens (human)
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia;
 OC Eutheria; Primates; Catarrhini; Hominidae; Homo.
 RN [1]
 RP 1-4285
 RX MEDLINE; 98325371.
 RA Kestila M., Lenkkeri U., Mannikko M., Lamerdin J., McCready P., Putaala H.,
 RA Ruotsalainen V., Morita T., Nissinen M., Herva R., Kashtan C.E.,
 RA Peltonen L., Holmberg C., Olsen A., Tryggvason K.;
 RT "Positionally cloned gene for a novel glomerular protein--nephrin--is
 RT mutated in congenital nephrotic syndrome";
 RL Mol. Cell 1(4):575-582(1998).
 RN [2]
 RP 1-4285
 RA Lenkkeri U., Kestila M., Mannikko M., Lamerdin J., McCready p., Putaala H.,
 RA Ruotsalainen V., Morita T., Nissinen M., Herva R., Kashtan C.E.,
 RA Peltonen L., Holmberg C., Olsen A., Tryggvason K.;
 RT ;
 RL Submitted (26-NOV-1997) to the EMBL/GenBank/DDBJ databases.
 RL Biochemistry, University of Oulu, Linnanmaa, Oulu 90570, Finland
 DR SPTREMBL; O60500; O60500.
 FH Key Location/Qualifiers
 FH
 FT source 1. .4285
 FT /chromosome="19"
 FT /db_xref="taxon:9606"
 FT /organism="Homo sapiens"
 FT /map="19q13.1"
 FT CDS 1. .3726
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 FT /db_xref="SPTREMBL:O60500"
 FT /gene="NPHS1"
 FT /product="nephrin"
 FT /protein_id="AAC39687.1"
 FT /translation="MALGTTLRASLLLLGLLTEGLAQLAPASVPRGFWALPENLT
 GASVELRCGVSTPGSAVQWAKDGLLGPDPRI PGFPRYRLEGDPARGE FHLHIEACDLS
 DDAEYECQVGRSEMGPELVSPRVILSILVPPKLLLTP
 DAKPAPDITILLSGQTISDISANVNEGSQQKLFTVEATARVTPRSSDNRQLLVCEASSP
 ALEAPIKASFTVNVLFP
 GQPVSTAWGTEHTQA
 SAIILGSASQ
 TENKNVTLSCVSKSSRPRVLLRWWL
 GWRQLLPMEETVMDGLHGGHISM

FT

SNLTFLARREDNGLTLCÉAFSEAFKEYKSLILNVKYPAQKLWIEGPPEGQKLRI

FT

TRVRLVCLAIGGNPEPSLMWYKDSRTVTESRLPQESRRVHLGSVEKGSTFSRELVLVT

SCORES Init1: 11557 Initn: 12214 Opt: 12066 z-score: 17125.7 E(): 0
 83.1% identity in 3474 bp overlap

	10	20	30	40		
Hn540-1.Dna	ATGTCCAGTTGACTCCCCTGCTGCTCATGGGAATGCTGACCTCAGGC					
	10	20	30	40	50	60
Af035835	ATGGCCCTGGGGACGACGCTCAGGGCTCTCTCTGCTCTGGGGCTGACTGAAGGC					
	50	60	70	80	90	100
Hn540-1.Dna	CTGGCCGAGTCGCCAGTCCCCACCTCAGCACCTCGAGGCTCTGGCTCTGTCTGAAAAC					
	70	80	90	100	110	120
Af035835	CTGGCGCAGTTGGCGATTCTCTGCCTCCGTTCCCCGGGGCTCTGGGCCCTGCCTGAAAAC					
	110	120	130	140	150	160
Hn540-1.Dna	CTGACTGCGGTGGAAGGGACAACAGTTAACAGCTATGGTGCAGGTGTCAGGGCCCCTGGCAGT					
	130	140	150	160	170	180
Af035835	CTGACGGTGGTGGAGGGGGCTCAGTGGAGCTGCAGTTGTGGGTCAAGCACCCCTGGCAGT					
	170	180	190	200	210	220
Hn540-1.Dna	GTGGTGCAGTGGGCTAAGGATGGCTGCTCTGGTCAAACCCGAAGATGCCAGGCTTC					
	190	200	210	220	230	240
Af035835	GCGGTGCAATGGGCCAAAGATGGCTGCTCCCTGGGCCCGACCCCAGGATCCCAGGCTTC					
	230	240	250	260	270	280
Hn540-1.Dna	CCGAGGTACAGCCTGGAAGGGAGATCGTCTAACAGGTGAGTCCACCTGCACATCGAGGCC					
	250	260	270	280	290	300
Af035835	CCGAGGTACCGCCTGGAAGGGGACCTGCTAGAGGTGAATTCCACCTGCACATCGAGGCC					
	290	300	310	320	330	340
Hn540-1.Dna	TGTGACCTCAGTGATGACCGCAGAGTATGAATGCCAAGTCGGCGCTCAGAGTTGGTCCC					
	310	320	330	340	350	360
Af035835	TGTGACCTCAGCGATGACCGGGAGTATGAGTGCAGGTGGCCGCTCTGAGATGGGCC					
	350	360	370	380	390	400
Hn540-1.Dna	GAGCTTGTGTCCTAAAGTAATCCTCTCCATTCTAGTTCCCCAAGGTGCTTCTGTTG					
	370	380	390	400	410	420
Af035835	GAGCTCGTGTCTCCAGAGTGATCCTCTCCATCCTGGTCTCTCCAAAGCTGCTCCTGCTG					
	410	420	430	440	450	460
Hn540-1.Dna	ACCCCCGAGGCAGGAAGCACAGTGACCTGGTAGCTGGCAGGAGTATGTGGTCACCTGT					
	430	440	450	460	470	480
Af035835	ACCCCAAGAGGCAGGCACCAGGTGACCTGGTAGCTGGCAGGAGTACGTGGTCAACTGT					
	470	480	490	500	510	520
Hn540-1.Dna	GTGTCTGGGGATGCAAAACAGCACCTGACATCACCTCATCCAGAGTGGACGAACATA					
	490	500	510	520	530	540
Af035835	GTGTCTGGGGACCGAAGCCAGCACCTGACATCACCATCCTGAGTGGACAGACAATA					
	530	540	550	560	570	580

Hn540-1.Dna	TTG	GTCTCCTCCAATGTGAATGAGGGATCAGAC	AAACTCTGCATCACAGAGGCC			
Af035835	TCTGACATCTCTGCAAACGTGAACGAGGGCTCCAGCAGAAACTCTCACTGTGGAGGCC					
	550	560	570	580	590	600
Hn540-1.Dna	590	600	610	620	630	640
	GAAGCCAGGGTGATACCCCAGAGCTCGGATAACGGGCAGTTACTGGTCTGTGAGGGTTCC					
Af035835	ACAGCCAGGGTGACACCCCGGAGCTCAGATAATAGGCAGTTGCTGGTCTGTGAGGGCTCT					
	610	620	630	640	650	660
Hn540-1.Dna	650	660	670	680	690	700
	AACCCAGTTGGACACTCCATAAAGGCTTCATTACCAGATAATTCTGTTCCCCCA					
Af035835	AGCCCAGCACTGGAGGCCCATCAAGGCCTCATTACCCGTGAATGTTCTGTTCCCTCCA					
	670	680	690	700	710	720
Hn540-1.Dna	710	720	730	740	750	760
	GGACCTCCTGTATTGATTGCCAGGGCTGAATGAAGGGCATGTGAGGGCAGGGGAGAAC					
Af035835	GGACCCCTGTATCGAGTGGCCAGGGCTGGATGAGGGGACGTGCGGGCAGGACAGAGC					
	730	740	750	760	770	780
Hn540-1.Dna	770	780	790	800	810	820
	CTGGAGCTGCCGTGCGTGGCCCGAGGGGTAATCCCTAGCCACACTGCAGTGGCTGAAG					
Af035835	TTGGAGCTGCCGTGCGTGGCCCGAGGGGTAATCCCTAGCCACACTGCAGTGGCTGAAG					
	790	800	810	820	830	840
Hn540-1.Dna	830	840	850	860	870	880
	AACGGTAAACCAGTGTCCACAGCCTGGGGCACCGAGCATGCCAGGCAGTGGCCCACAGT					
Af035835	AATGGCCAGCCGGTGTCCACAGCGTGGGGCACAGAGCACACCCAGGGGTGGCCCGAGT					
	850	860	870	880	890	900
Hn540-1.Dna	890	900	910	920	930	940
	GTGCTGGTGATGACTGTACGACCTGAAGACCATGGAGCTCGGCTCAGCTGTCAGTCCTAC					
Af035835	GTGCTGGTGATGACCGTGAGGCCAGAACGACCATGGAGCGCAGCTCAGCTGCGAGGCCAC					
	910	920	930	940	950	960
Hn540-1.Dna	950	960	970	980	990	1000
	AACAGCGTGTCTGCAGGGACCCAGGAGAGAACATCACACTACAGGTACCTTCCCCCA					
Af035835	AACAGCGTGTCTGCAGGGACCCAGGAGCACGGCATCACACTGCAGGTACCTTCCCCCT					
	970	980	990	1000	1010	1020
	1010	1020	1030	1040	1050	1060
Hn540-1.Dna	1070	1080	1090	1100	1110	1120
	TGCCTGACCAAGTCCAGTCGCCACGGGTCTGCGATGGTGGTGGACGGCAG					
Af035835	TGTGTCAGCAAGTCCAGTCGCCCGCGGGTCTGCTACGATGGTGGCTGGCTGGCGCAG					
	1090	1100	1110	1120	1130	1140
Hn540-1.Dna	1130	1140	1150	1160	1170	1180
	CTGCTGCCACAGATGAGACAGTCATGGATGGCCTGCATGGTGGCCACATCTCCATGTCC					
Af035835	CTGCTGCCATGGAGGAGACAGTCATGGATGGACTGCATGGCGGTACATCTCCATGTCC					

	1150	1160	1170	1180	1190	1200
Hn540-1.Dna	AATCTCACATTCTGGTGCAGAGAAGACAATGGCCTGCCCTCACGTGTGAAGCCTTC				1190	1200
Af035835	AACCTGACATTCCCTGGCGCGGGAGGACAACGGTCTGACCCTCACATGTGAGGCCTTC				1210	1220
Hn540-1.Dna	AGTGACGCCTTCAGCAAGGAGACCTCAAGAAGTCACTCACCTGAATGTGAATACCCCT				1230	1240
Af035835	AGTGAAGCCTTCACCAAGGAGACCTCAAGAAGTCGCTCATCCTGAACGTAAAATATCCC				1250	1260
Hn540-1.Dna	GCCCAGAAGCTGTGGATTGAGGGGCCAGAGGGACAGTACATCCGGACTGGGACTCGG				1270	1280
Af035835	GCCCAGAAACTGTGGATTGAGGGTCCCCCAGAGGGCCAGAAAGCTCGGGCTGGGACCCGG				1290	1300
Hn540-1.Dna	GCCCAGAAGCTGTGGATTGAGGGTCCCCCAGAGGGCCAGAAAGCTCGGGCTGGGACCCGG				1310	1320
Af035835	GCCCAGAAACTGTGGATTGAGGGTCCCCCAGAGGGCCAGAAAGCTCGGGCTGGGACCCGG				1330	1340
Hn540-1.Dna	GTGAGGCTGGTATGCTTGGCCATCGGAGGCAACCCAGACCCCTCCCTCATCTGGTTAACG				1350	1360
Af035835	GTGAGGCTGGTGTGTTGGCTATCGGGGCAACCCAGAGCCCTCCCTCATGTGGTACAAG				1370	1380
Hn540-1.Dna	GATTACGTCCGGTGAGCGAGCCCCGGCAGCCCCCAGGAGCCCCGGCGTGTGCAGCTGGC				1390	1400
Af035835	GACTCGCGCACCGTGACCGAGTCGCGGCTGCCGCAGGAGTCGCGGCGCGTGCATCTCGC				1410	1420
Hn540-1.Dna	1430 1440 1450 1460 1470 1480				1430	1440
Af035835	GACTCGCGCACCGTGACCGAGTCGCGGCTGCCGCAGGAGTCGCGGCGCGTGCATCTCGC				1450	1460
Hn540-1.Dna	1490 1500 1510 1520 1530 1540				1490	1500
Af035835	AGCGTGGAGAAATCTGGGAGACCTCTCCCGAGAGCTGGTGTGGTACAGGGCCGTCG				1510	1520
Hn540-1.Dna	GACAACCGAGCCAAGTTCTCCTGCAAGGCGGGTCAGCTCAGTGCCTACGCAGCTGGT				1530	1540
Af035835	GACAACCGAGCCAAGTTACGTGCAAGGCTGGACAGCTCAGCGCGTACAGCAGCTGGC				1550	1560
Hn540-1.Dna	1550 1560 1570 1580 1590 1600				1550	1560
Af035835	1570 1580 1590 1600 1610 1620				1570	1580
Hn540-1.Dna	1610 1620 1630 1640 1650 1660				1610	1620
Af035835	GTGCAGTTCCCCCAACCAACCTGACCATCCTGGCCAACCTCGTCCCGCGCTGCAGCC				1630	1640
Hn540-1.Dna	1630 1640 1650 1660 1670 1680				1630	1640
Af035835	GTGCAGTTCCCCCAACTAACGTGACGATCCTGGCCAACCGCATCCGACTCGGCCGG				1670	1680
Hn540-1.Dna	1690 1700 1710 1720 1730 1740				1690	1700
Af035835	GACGCCTTAAACCTGACATCGCTCAGCGTCAGCAGCAATCCGCCGGTCAACTTGTCTGG				1710	1720
Hn540-1.Dna	1750 1760 1770 1780				1730	1740
Af035835	GACAAGGAAGGGAGAGGGCTGGAGAGGGCTGGAGGGCGTGGCCGCCACCCCGGAGAGCCC				1750	1760
Hn540-1.Dna	1790 1800 1810 1820 1830 1840				1790	1800
Af035835	1790 1800 1810 1820 1830 1840				1790	1800

Hn540-1.Dna	GGCT	GCTGCATCCAGGAGTGT	TTTCTCAGAGTG	ATCCCAGAGACCACGGTCAACGG		
Af035835						
	1810	1820	1830	1840	1850	1860
Hn540-1.Dna	1850	1860	1870	1880	1890	1900
Af035835	GTCACCTGCCGGGCCACAGCGAGGC	ACTCCGTGAAACCGTGAGC	TCCCTCATCCG	CCTACCGCTTC		
	1870	1880	1890	1900	1910	1920
Hn540-1.Dna	1910	1920	1930	1940	1950	1960
Af035835	AATGTGCTGTATCCTCCAGAATT	CCCTGGGGAGCAAGTCCGGG	CAGTGACCGTG	GGTGGAG		
	1930	1940	1950	1960	1970	1980
Hn540-1.Dna	1970	1980	1990	2000	2010	2020
Af035835	CAGGGCCAGGTGCTGCTGCCGG	TGTCCGGTAACCCC	GCCCCCGAGGC	CTTCAAC		
	1990	2000	2010	2020	2030	2040
Hn540-1.Dna	2030	2040	2050	2060	2070	2080
Af035835	TGGACCTTCCGAGGCTACCGC	CTCAGCCCAGTGGGGT	CCCCGGCACCGT	TATCCTGTCT		
	2050	2060	2070	2080	2090	2100
Hn540-1.Dna	2090	2100	2110	2120	2130	2140
Af035835	GGAGGGGCTCTGCAGCTGT	GGAAATGTGACCCGAG	GCTGACGATGG	CTTTATCAGCTGCAC		
	2110	2120	2130	2140	2150	2160
Hn540-1.Dna	2150	2160	2170	2180	2190	2200
Af035835	TGCCAGAACTCAGAGGG	CACCGCTGAGGC	GCTGTTGAAGCT	GGACGTGCATTATG	CTCCC	
	2170	2180	2190	2200	2210	2220
Hn540-1.Dna	2210	2220	2230	2240	2250	2260
Af035835	ACCATCCGTGCCCTCCGG	GGACCTACTGAGGT	GAATGTTGGGG	TTCTGTGGACATAGTC		
	2230	2240	2250	2260	2270	2280
Hn540-1.Dna	2270	2280	2290	2300	2310	2320
Af035835	TGCACCGTTGACGCCAAT	CCCATCCTCC	CAGAGATGTTCA	GCTGGAGAGACTGGGAGAA		
	2290	2300	2310	2320	2330	2340
Hn540-1.Dna	2330	2340	2350	2360	2370	2380
Af035835	GAAGAGGAGGATCTGAAC	CTGGACGACATGG	AGAAAAGTTCCAAGG	GATCCACGGGGCGT		
	2350	2360	2370	2380	2390	2400
Hn540-1.Dna	2390	2400	2410	2420	2430	2440
Af035835	CTGCGGATTGCCAAGCC	AAGCTATCCCAGG	CTGGCTGGC	TACCAAGGTGC	CATCGTGGACAAT	
	2450	2460	2470	2480	2490	2500

410 2420 2430 2450 2460

Hn540-1.Dna 2450 2460 2470 2480 2490 2500
 GGGGTGGCTCCTGCAGCCAGAGGACTGGTTCGTCTGTCGTCGATTGCTCCCCAGGTG
 ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 Af035835 2470 2480 2490 2500 2510 2520
 GGGGTGGCGCCTCCAGCACGGACGGCTGCTCCGTTGTTGTCAGATTGCCCCCAGGTG

Hn540-1.Dna 2510 2520 2530 2540 2550 2560
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 ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
 Af035835 2530 2540 2550 2560 2570 2580
 GAGCACCCCCACTCCCCTAACATAAGGTGGCTGCAGCTGGAGACAGCACCAAGTTCTGCCACC

Hn540-1.Dna 2570 2580 2590 2600 2610 2620
 CTGCACTGCCGTGCCCGGGGTGTCCCCAACATCGACTTCACTTGGACCAAAAAACGGGGTC
 ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
 Af035835 2590 2600 2610 2620 2630 2640
 CTCCACTGCCGTGCCCGAGGGTGTCCCCAACATCGTTTACTTGGACCAAAAAACGGGGTC

Hn540-1.Dna 2630 2640 2650 2660 2670 2680
 CCTCTGGATCTCCAAGACCCCAGGTACACAGAGCACAGGTACCACCAGGGTGGTGTCCAC
 ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
 Af035835 2650 2660 2670 2680 2690 2700
 CCTCTGGATCTCCAAGATCCCAGGTACACGGAGCACACATACCACCAGGGTGGTGTCCAC

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 AGCAGCCTCTTGACCATCGCTAATGTGTCTGCCGCCAGGACTATGCCCTTTCAAATGC
 ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
 Af035835 2710 2720 2730 2740 2750 2760
 AGCAGCCTCTGACCATTGCCAACGTGTCTGCCGCCAGGATTACGCCCTTTCACATGT

Hn540-1.Dna 2750 2760 2770 2780 2790 2800
 ACGGCCACCAATGCCCTTGGCTCTGACCACACCAACATCCAGCTCGTCAGCATCAGCCGC
 ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
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 ACAGCCACCAACGCCCTTGGCTCGGACCAAAACCAACATTCAAACGTGTCTGCCATCAGCCGC

Hn540-1.Dna 2810 2820 2830 2840 2850 2860
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 ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
 Af035835 2830 2840 2850 2860 2870 2880
 CCTGACCCCTCCATCAGGATTAAAGGTTGTGAGTCTGACCCACACTCCGTGGGCTGGAG

Hn540-1.Dna 2870 2880 2890 2900 2910 2920
 TGGAAGCCTGGCTTTGATGGGGCTGCCTCAGAGGTTCAAATCAGGTACGAGGCCCTC
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 TGGAAGCCTGGCTTTGATGGGGCTGCCACAGAGGTTCTGCATCAGGTATGAGGCCCTG

Hn540-1.Dna 2930 2940 2950 2960 2970 2980
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 Af035835 2950 2960 2970 2980 2990 3000
 GGGACTCCAGGGTTCCACTATGTGGATGTCGTACCACCCAGGCCACCTCACGCTG

Hn540-1.Dna 2990 3000 3010 3020 3030 3040
 ACTGGGCTGAAGCCTCTACACGATATAGGATCTGGCTGTGGCCAGCAATGCCCTGGGG
 ||| ||| ||| ||| ||| ||| ||| |||
 Af035835 3010 3020 3030 3040 3050 3060
 ACTGGCTACAGCCTCTACAAGATAACAGGGCTGGCTGGCCAGTAATGCCCTGGGG

Hn540-1.Dna 3050 3060 3070 3080 3090 3100
 GACAGTGGATTGACGGACAAGGGATCCAGGTCTCCGTACTACCCAGGCCCCGACCAG

Hn540-1.Dna
Gcg Geneseq D:Z25338

ID Z25338 standard; cDNA; 4285 BP.

AC Z25338;

DT 17-DEC-1999 (first entry)

DE Human nephrin nucleotide sequence.

KW Human; nephrin; NPHS1 gene; basement membrane disease; proteinuria;

KW nephrotic syndrome; kidney disease; diagnosis; clinical nephrology;

KW glomerular filtration barrier; glomerulonephritis; ss.

OS *Homo sapiens.*

FH Key Location/Qualifiers

FT CDS 1. .3726

FT /*tag= a

FT sig peptide 1. .66

FT /*tag= b

FT /note= "putative signal peptide"

FT mat_peptide 67. .3723

FT /*tag= c
 FT misc_feature 121. .122
 FT /*tag= d
 FT /note= "deletion mutation FIN-Major"
 FT misc_feature 3800. .3804
 FT /*tag= e
 FT /note= "nonsense mutation in exon 26 FIN-Major"
 FT misc_feature 3178. .3258
 FT /*tag= f
 FT /note= "putative transmembrane domain"
 PN WO9947562-A1.
 PD 23-SEP-1999.
 PF 16-MAR-1999; U05578.
 PR 18-MAR-1998; US-040774.
 PA (BIOS-) BIOSTRATUM INC.
 PI Tryggvason K, Kestila M, Lenkkeri U, Mannikko M;
 DR WPI; 1999-590967/50.
 DR P-PSDB; Y42167.
 PT New isolated nucleic acid (gene) encoding nephrin useful in methods for
 PT screening for susceptibility to basement membrane disease -
 PS Claim 1; Page 34-42; 60pp; English.
 CC The present sequence represents the NPHS1 gene which encodes nephrin.
 CC The present invention describes methods for the treatment of an
 CC individual with basement membrane disease by administration of the
 CC nephrin protein, as well as methods of gene therapy using therapeutic
 CC nucleic acid constructs containing an expressible nucleic acid with
 CC the NPHS1 sequence. NPHS1 appears to solely affect the kidney and
 CC therefore provides a unique model for studies on the glomerular
 CC filtration barrier. Abnormal function of the filtration barrier is a
 CC major complication in many clinically important kidney diseases such as
 CC nephrotic syndromes and glomerulonephritides and therefore this
 CC invention will help in the understanding of clinical nephrology.
 CC The identification of the NPHS1 gene immediately finds applications
 CC for diagnosis of the disease.
 SQ Sequence 4285 BP; 886 A; 1294 C; 1302 G; 803 T; . . .

SCORES : Init1: 11557 Initn: 12214 Opt: 12066 z-score: 17125.7 E(): 0

83.1% identity in 3474 bp overlap

	10	20	30	40			
Hn540-1.Dna	ATGTCCAGTTGACTCCCCCTGCTGCTCATGGAAATGCTGACCTCAGGC						
Z25338	ATGGCCCTGGGGACGACGCTCAGGGCTTCTCTCCTGCTCCTGGGGCTGCTGACTGAAGGC	10	20	30	40		
					50		
					60		
	50	60	70	80	90	100	
Hn540-1.Dna	CTGGCCGAGTCGCCAGTCCCCACCTCAGCACCTCGAGGCTTCTGGGCTCTGTCTGAAAAC						
Z25338	CTGGCGCAGTTGGCGATT CCTGCCTCCGTTCCCCGGGGCTTCTGGGCCCTGCCTGAAAAC	70	80	90	100	110	120
	110	120	130	140	150	160	
Hn540-1.Dna	CTGACTGCGGTGGAAGGGACAACAGTTAACAGCTATGGTGCGGTGTCAGGGCCCCTGGCAGT						
Z25338	CTGACGGTGGTGGAGGGGCCCTCAGTGGAGCTGCGTTGTGGGTCA GCACCCCTGGCAGT	130	140	150	160	170	180
	170	180	190	200	210	220	
Hn540-1.Dna	GTGGTGCAGTGGGCTAAGGATGGGCTGCTTCTGGGTCAAACCCGAAGATGCCAGGCTTC						
Z25338	GCGGTGCAATGGGCCAAAGATGGGCTGCTCCTGGGCCCGACCCAGGGATCCCAGGCTTC	190	200	210	220	230	240

	230	240	250	260	270	280
Hn540-1.Dna	CCGAGGTACAGCCTGGAAAGGAGATCGTGTAAAGGCAGTTCCACCTGCTTATTGAAGCC					
Z25338	CCGAGGTACCGCCTGGAAAGGGGACCCGTCTAGAGGTGAATTCCACCTGCACATCGAGGCC					
	250	260	270	280	290	300
	290	300	310	320	330	340
Hn540-1.Dna	TGTGACCTCAGTGATGACGCAGAGTATGAATGCCAAGTCGGCCGCTCAGAGTTGGTCCC					
Z25338	TGTGACCTCAGCGATGACGCCAGAGTATGAGTGCCAGGTGGCCGCTCTGAGATGGGCC					
	310	320	330	340	350	360
Hn540-1.Dna	GAGCTTGTGTCTCCTAAAGTAATCCTCTCCATTCTAGTTCCCCAAGGTGCTCTGTTG					
Z25338	GAGCTCGTGTCTCCCAGAGTGATCCTCTCCATCCTGGTTCTCCCAAGCTGCTCCTGCTG					
	370	380	390	400	410	420
Hn540-1.Dna	ACCCCCGAGGCAGGAAGCACAGTGACCTGGTAGCTGGCAGGAGTATGTGGTCACCTGT					
Z25338	ACCCCAGAGGCAGGCCACCATGGTCACCTGGTAGCTGGCAGGAGTACGTGGTCACGT					
	430	440	450	460	470	480
Hn540-1.Dna	GTGTCTGGGATGCAAAACCAGCACCTGACATCACCTCATCCAGAGTGGACGAACTATA					
Z25338	GTGTCTGGGACGCCAGCACCTGACATCACCATTCTCCTGAGTGGACAGACAATA					
	490	500	510	520	530	540
Hn540-1.Dna	530 540 550 560 570 580					
Z25338	TCTGACATCTCTGCAAACTGTGAACGAGGGCTCCAGCAGAAAACACTCTCACTGTGGAGGCC					
	550	560	570	580	590	600
Hn540-1.Dna	590 600 610 620 630 640					
Z25338	GAAGCCAGGGTGATAACCCAGAGCTCGGATAACGGGCAGTTACTGGTCTGTGAGGGTTCC					
	610	620	630	640	650	660
Hn540-1.Dna	650 660 670 680 690 700					
Z25338	AACCCAGCTTGGACACTCCCATAAAGGCTTCATTCACCATGAATATTCTGTTCCCCA					
	670	680	690	700	710	720
Hn540-1.Dna	710 720 730 740 750 760					
						-
Z25338	GGACCCCTGTCATCGAGTGGCCAGGCCTGAATGAAGGGCATGTGAGGGCAGGGGAGAAC					
	730	740	750	760	770	780
Hn540-1.Dna	770 780 790 800 810 820					
Z25338	CTGGAGCTGCCCTGCACAGCCAGAGGTGGCAATCCACCTGCTACCCCTGCAGTGGCTGAAG					
	790	800	810	820	830	840
Hn540-1.Dna	AACGGTAAACCAGTGTCCACAGCCTGGGCACCGAGCATGCCAGGCAGTGGCCCACAGT					

Z25338	AAT	CAGCCGGTGTCCACAGCGTGGGCACAGAG	CACCCAGGCGGTGCCCGCAGT			
	850	860	870	880	890	900
Hn540-1.Dna	890	900	910	920	930	940
	GTGCTGGTGATGACTGTACCGACCTGAAGACCATGGAGCTCGGCTCAGCTGTCACTCCTAC					
Z25338	910	920	930	940	950	960
	GTGCTGGTGATGACCGTGAGGCCAGAAGACCATGGAGCGCAGCTCAGCTGCGAGGCCAC					
Hn540-1.Dna	950	960	970	980	990	1000
	AACAGCGTGTCTGCAGGGACCCAGGAGAGAACATCACACTACAGGTACACTTCCCCCA					
Z25338	970	980	990	1000	1010	1020
	AACAGCGTGTCTGCAGGGACCCAGGAGCACGGCATCACACTGCAGGTACACTTCCCCCT					
Hn540-1.Dna	1010	1020	1030	1040	1050	1060
	AGCGCCATTACCATCCTGGGATCTGTATCACAAATCGGAGAACAGTACCGCTTGC					
Z25338	1030	1040	1050	1060	1070	1080
	AGTGCATTATTATCTTGGGATCTGCATCCCAGACTGAGAACAGTACACTCTCC					
Hn540-1.Dna	1070	1080	1090	1100	1110	1120
	TGCCTGACCAAGTCCAGTCGCCCACGGGTCTGCTGCGATGGTGGTGGGTGGACGGCAG					
Z25338	1090	1100	1110	1120	1130	1140
	TGTGTCAGCAAGTCCAGTCGCCCAGGGTTCTGCTACGATGGTGGCTGGCTGGCGGGCAG					
Hn540-1.Dna	1130	1140	1150	1160	1170	1180
	CTGCTGCCACAGATGAGACAGTCATGGATGGACTGCATGGCGGTACATCTCCATGTCC					
Z25338	1150	1160	1170	1180	1190	1200
	CTGCTGCCATGGAGGAGACAGTCATGGATGGACTGCATGGCGGTACATCTCCATGTCC					
Hn540-1.Dna	1190	1200	1210	1220	1230	1240
	AATCTCACATTCTTGGTGCGGAGAGAACAGTCATGGCTGCCCTCACGTGTGAAGCCTTC					
Z25338	1210	1220	1230	1240	1250	1260
	AACCTGACATTCTGGCGCGGGGGAGAACGGTCTGACCCCTCACATGTGAGGCCTTC					
Hn540-1.Dna	1250	1260	1270	1280	1290	1300
	AGTGACGCCCTCAGCAAGGAGACCTCAAGAACAGTCACTCACCTGAATGTGAAATAACCT					
Z25338	1270	1280	1290	1300	1310	1320
	AGTGAAGCCTCACCAAGGAGACCTCAAGAACAGTCGCTCATCCTGAACGTAAAATATCCC					
Hn540-1.Dna	1310	1320	1330	1340	1350	1360
	GCCCGAGCTGTGGATTGAGGGCCCCAGAGGGACAGTACATCCGGACTGGGACTCGG					
Z25338	1330	1340	1350	1360	1370	1380
	GCCCGAGAAACTGTGGATTGAGGGTCCCCCAGAGGGCCAGAACAGTCCGGCTGGGACCCGG					
Hn540-1.Dna	1370	1380	1390	1400	1410	1420
	GTGAGGCTGGTATGCTTGGCATCGGAGGCAACCCAGACCCCTCCCTCATCTGGTTAAG					
Z25338	1390	1400	1410	1420	1430	1440
	GTGAGGCTGGTGTGTTGGCTATCGGGGCAACCCAGAGGCCCTCCCTCATGTGGTACAAG					
Hn540-1.Dna	1430	1440	1450	1460	1470	1480
	GATTACGTCCGGTGAGCGAGCCCCGGCAGCCCCCAGAGGCCCGGCGTGTGCAGCTGGGC					
Z25338	1450	1460	1470	1480	1490	1500
	GACTCGCGCACCGTGACCGAGTCGCGGCTGCCGCAGGAGTCGCGGCGTGCATCTCGGC					

	1490	1500	1510	1520	1530	1540
Hn540-1.Dna	AGTGTGGAGAAGTCCGGGAGCAGCTTTCTCCCGAGCTGGTGTTCATAGGTCGCCG					
z25338	AGCGTGGAGAAATCTGGGAGCACCTCTCCCGAGAGCTGGTGTACAGGGCGTCG					
	1510	1520	1530	1540	1550	1560
	1550	1560	1570	1580	1590	1600
Hn540-1.Dna	GACAACCGAGCCAAGTTCTCCTGCAAGGCAGGGTCAGCTCAGTGCCTACGCAGCTGGT					
z25338	GACAACCGAGCCAAGTTCACGTGCAAGGCTGGACAGCTCAGCGCGTCCACGCAGCTGGC					
	1570	1580	1590	1600	1610	1620
	1610	1620	1630	1640	1650	1660
Hn540-1.Dna	GTGCAGTTCCCCAACCAACCTGACCATCCTGCCACTCGTCCGCCGTGCGCCCAGGC					
z25338	GTGCAGTTCCCCAACTAACGTGACCGATCCTGCCAACGCATCCGACTGCGCCCGGA					
	1630	1640	1650	1660	1670	1680
	1670	1680	1690	1700	1710	1720
Hn540-1.Dna	GACGCCTTGAACTTGACCTGCGTCAGCATCAGCAGCAACCCCCCAGTCACATTGCTTGG					
z25338	GACGCCTTAAACTTGACATGCGTCAGCGTCAGCAGCAATCCGCCGGTCAACTTGTCCCTGG					
	1690	1700	1710	1720	1730	1740
	1730	1740	1750	1760	1770	1780
Hn540-1.Dna	GACAAGGAAGGGAGAGGAGGGCTGGAAAGATGTGGCTGCAAAACCCAGAGTGCACC GTTCAA					
z25338	GACAAGGAAGGGAGAGGAGGGCTGGAGGGCGTGGCCGCCACCCGGAGAGCCCATTCAA					
	1750	1760	1770	1780	1790	1800
	1790	1800	1810	1820	1830	1840
Hn540-1.Dna	GGCTCCGCTGCATCCAGGAGTGTCTCAGAGTGTCACTCCGAGACCACGGTCAACGG					
z25338	GGCTCCGCCGCCAGGAGCGTCCTCTGCAAGTGTCACTCCGCGATCATGGCAGCG					
	1810	1820	1830	1840	1850	1860
	1850	1860	1870	1880	1890	1900
Hn540-1.Dna	GTCACCTGCCGGGCCACAGCGAGGCAGCTCCGTGAAACCGTGAGCTCCTCTACCGCTTC					
z25338	GTGACCTGCCGCCACAGCGCCGAGCTCCCGGAAACCGTGAGCTCCTCTATCGCCTC					
	1870	1880	1890	1900	1910	1920
	1910	1920	1930	1940	1950	1960
Hn540-1.Dna	AATGTGCTGTATCCTCCAGAATTCTGGGGAGCAAGTCCGGCAGTGACCGTGGTGGAG					
z25338	AACGTACTGTACCGTCCAGAGTTCTGGGGAGCAGGTGCTGGTGGTACCGCGGTGGAG					
	1930	1940	1950	1960	1970	1980
	1970	1980	1990	2000	2010	2020
Hn540-1.Dna	CAGGGCCAGGTGCTGCCGGTGTCCGTGCTAACCCGCCCGAGGCCTTCAAC					
z25338	CAGGGCGAGGCCTGCTGCCGTGTCCGTGCTAACCCGCCCGAGGCCTTCAAC					
	1990	2000	2010	2020	2030	2040
	2030	2040	2050	2060	2070	2080
Hn540-1.Dna	TGGACCTTCCGAGGCTACCGCCCTCAGCCCAGCTGGGGTCCCCGGCACCGTATCCTGTCT					
z25338	TGGACCTTCCGCCGCTATCGCCTCAGTCCAGCGGGCGCCCGCATCGCATCCTGTCC					
	2050	2060	2070	2080	2090	2100
	2090	2100	2110	2120	2130	2140
Hn540-1.Dna	GGAGGGGCTCTGCAGCTGTGGAATGTGACCGAGCTGACGATGGCTTATCAGCTGCAC					
z25338	AGCGGGGCTCTGCATCTGTGGAATGTGACCGCGCGACGACGGCCTATCAGCTGCAC					

2110 2120 2130 2140 2150 2160

Hn540-1.Dna TGCCAGAACTCAGAGGGCACCGCTGAGGCCTGTTGAAGCTGGACGTGCATTATGCTCCC
 Z25338 TGCCAGAACTCTGAGGGCACCGCGGAAGCGCGCCTGCCGGCTGGACGTGCACTATGCTCCC
 2170 2180 2190 2200 2210 2220

Hn540-1.Dna ACCATCCGTGCCCTCCGGGACCCCTACTGAGGTGAATGTTGGGGTTCTGTGGACATAGTC
 Z25338 ACCATCCGTGCCCTCCAGGACCCCCTGAGGTGAACGTCGGGGTTCTGTGGACATAGTC
 2230 2240 2250 2260 2270 2280

Hn540-1.Dna TGCACCGTTGACCCAATCCCCTCCAGAGATGTTCACTGGGAGAGACTGGGAGAA
 Z25338 TGCACGTGCGATGCCAATCCCCTCCCGGGCATGTTCAACTGGGAGAGACTGGGAGAA
 2290 2300 2310 2320 2330 2340

Hn540-1.Dna GAAGAGGAGGATCTGAACCTGGACGACATGGAGAAAGTTCCAAGGGATCCACGGGGCGT
 Z25338 GATGAGGAGGACCAAGCCTGGATGACATGGAGAAAGATATCCAGGGACCAACGGGGCGC
 2350 2360 2370 2380 2390 2400

Hn540-1.Dna CTGCGGATTGCCAACGCTATCCCAGGCTGGTGCCTACCAAGTGCATCGTGGACAAT
 Z25338 CTGCGGATTCCCCATGCCAACGCTGGCCAGGCTGGCGCTTACCAAGTGCATTGTGGACAAT
 2410 2420 2430 2440 2450 2460

Hn540-1.Dna GGGGTGGCTCCTGCAGCCAGAGGACTGGTCGTCTTGTGGCCGATTGCTCCCCAGGTG
 Z25338 GGGGTGGCGCTCCAGCACGACGGCTGCTCCGTTGTTGTCAGATTGCCCCCAGGTG
 2470 2480 2490 2500 2510 2520

Hn540-1.Dna GATCAGCCTACTCCCCTAACAAAAGTGGCTGCCGCTGGGACAGCACAGCTAGCCACA
 Z25338 GAGCACCCCCTAACTAAGGTGGCTGCAGCTGGAGACAGCACAGTCTGCCACC
 2530 2540 2550 2560 2570 2580

Hn540-1.Dna CTGCACTGCCGTGCCGGGGTGTCCCCAACATCGACTTCACTGGACCAAAACGGGGTC
 Z25338 CTCCACTGCCGTGCCGGGGTGTCCCCAACATCGTTTCACTGGACAAAAAACGGGGTC
 2590 2600 2610 2620 2630 2640

Hn540-1.Dna CCTCTGGATCTCAAAGACCCAGGTACACAGAGCACAGGTACCAACAGGGTGTGTCCAC
 Z25338 CCTCTGGATCTCAAAGATCCCAGGTACACGGAGCACACATACCACCAAGGGTGGTGTCCAC
 2650 2660 2670 2680 2690 2700

Hn540-1.Dna AGCAGCCTCTTGACCATCGCTAACATGTGTCTGCCGCCAGGACTATGCCCTCTCAAATGC
 Z25338 AGCAGCCTCTGACCATGGCAACGTGTCTGCCGCCAGGATTACGCCCTCTCACATGT
 2710 2720 2730 2740 2750 2760

Hn540-1.Dna ACGGCCACCAATGCCCTGGCTCTGACCAACACCAACATCCAGCTCGTCAGCATCAGCCGC
 2770 2780 2790 2800

Z25338 ACAGGCCACCAACGCCCTGGCTCGGACCAAACCAACATTCAACTTGTCAGCATCAGCCGC
2770 2780 2790 2800 2810 2820

Hn540-1.Dna CCTGACCCCTCCACTGGGACTGAAGGTTGTCAGCATAAGCCCTCACTCGGTGGGCTGGAG
2810 2820 2830 2840 2850 2860

Z25338 CCTGACCCCTCCATCAGGATTAAAGGTTGTGAGTCTGACCCCACACTCCGTGGGCTGGAG
2830 2840 2850 2860 2870 2880

Hn540-1.Dna TGGAACGCCTGGCTTGATGGGGTCTGCCTCAGAGGTTCAAATCAGGTACGAGGCCCTC
2870 2880 2890 2900 2910 2920

Z25338 TGGAACGCCTGGCTTGATGGGGCCTGCCACAGAGGTTCTGCATCAGGTATGAGGCCCTG
2890 2900 2910 2920 2930 2940

Hn540-1.Dna GAGACCCCAGGATTCCCTCACGTGGATGTCCTACCTACACAGGCCACTACCTCACGCTG
2930 2940 2950 2960 2970 2980

Z25338 GGGACTCCAGGGTCCACTATGTGGATGTCGTACCACCCAGGCCACACCTCACGCTG
2950 2960 2970 2980 2990 3000

2990 3000 3010 3020 3030 3040

Hn540-1.Dna ACTGGGCTGAAGCCTTCTACACGATATAGGATCTGGCTGTGGCCAGCAATGCCCTGGGG
3010 3020 3030 3040 3050 3060

Z25338 ACTGGTCTACAGCCTTCTACAAGATAACAGGGTCTGGCTGCTGGCCAGTAATGCCTTGGGG
3070 3080 3090 3100 3110 3120

Hn540-1.Dna GACAGTGGATTGACGGACAAGGGGATCCAGGTCTCCGTCACTACCCAGGCCAG
3050 3060 3070 3080 3090 3100

Z25338 GACAGTGGACTGGCTGACAAAGGGACCCAGCTTCCCATCACTACCCAGGTCTCCACCAAG
3070 3080 3090 3100 3110 3120

3110 3120 3130 3140 3150 3160

Hn540-1.Dna GCTCCTGAAGACACAGACCACAGCTGCCACAGAGCTGCTCCAGGACCCCCAAGGCTG
3130 3140 3150 3160 3170 3180

Z25338 CCTTCTGGAGAACCTGAAGACCAAGCTGCTGCCACAGAGCCACCTCAGGACCTCGGGCTG
3170 3180 3190 3200 3210 3220

Hn540-1.Dna CCCCTGCTGCCTGTGCTCTTGCAAGTTGGTGGTCTCTGCTGCTCTCCAAATGCCTCCTGT
3190 3200 3210 3220 3230 3240

Z25338 CCCCTGCTGCCTGTGCTGTTGCTCTGGGGGCTCTGCTCCCTCTCCAAATGCCTCCTGT
3230 3240 3250 3260 3270 3280

Hn540-1.Dna GTTGGGGGTCTCCTCTGGCGGAGAAAGACTGAGGCGCTTGCTGAGGAGATCTCAGAGAAC
3250 3260 3270 3280 3290 3300

Z25338 GTCGGGGGGGTCTCTGGCAGCGGAGACTCAGGCGTCTGCTGAGGGCATCTCAGAGAAC
3290 3300 3310 3320 3330 3340

Hn540-1.Dna ACAGAGGCAGGGTCGGAGGACAGGGATCAGGAATGAATATGAGGGAGAGTCAGTGGACT
3310 3320 3330 3340 3350 3360

Z25338 ACAGAGGCAGGGTCGGAAGAGGGACCGAGTCAGGAACGAATATGAGGGAGGCCAGTGGACA
3350 3360 3370 3380 3390 3400

Hn540-1.Dna GGGGACCGGGACACGAGAAAGCTCCACGGTTAGCACAGCAGAAGTGGACCCAAATTACTAC
3370 3380 3390 3400 3410 3420

Z25338 GGAGAGCGGGACACTCAGAGCTCCACGGTCAGCACAAACAGAGGGCAGAGGCCGTATTACCGC